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AUTHOR	Banathy, Bela H.; And Others
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ABSTRACT

The project examined the effects of learned leadership/membership skills on performance in task-oriented groups, developed competence-based instructional materials to teach such skills, and examined the effects of such skills on individual and group knowledge, skills, attitudes, and performance. Following a literature review, materials review, and needs assessment, discussions and questionnaires gathered information from teachers, parents, counselors, managers, employers, and students. Specific needs having been established, the curriculum design and prototype modules were developed. Eight priority areas were identified as those to be addressed in the development effort: Group communication, knowing and using resources, evaluation, conflict resolution, planning, coordinating activities, sharing leaderships, and decisionmaking. Extensive pilot testing over the following two years involved a variety of student settings--urban, suburban, rural; large schools and small; academically motivated students and underachievers; vocational, experimental, and traditional academic classes. Findings indicated that (1) administrators, teachers, and students appreciate the need for and value of instruction in the cooperative group interaction skills area, (2) the skills in this area of competence are difficult to teach, and (3) extended research and development--which would take into consideration further testing, teacher training, curriculum fusion, and curriculum design--would be of significant value. Appendixes contain the curriculum outline, operational definitions of effects to be tested in task-oriented groups, summary charts of selected evaluation items, and some reflections on and implications of the cooperative group interaction skills (CGIS) curriculum. (Author/TA)

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THE EFFECTS OF LEARNED LEADERSHIP/MEMBERSHIP SKILLS ON WORK PERFORMANCE

A FINAL REPORT

The research curriculum described in this report is
contained in a separate volume entitled INTERACTION.

Bela H. Banathy

Samuel R. Bell
William C. Roberts
Luis O. Reyes

Dru S. Robinson
Laird R. Blackwell
William J. Dunne

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FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
1855 FOLSOM STREET • SAN FRANCISCO, CALIFORNIA 94103

CE 009 101

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Carolyn Dodge, Vice-principal;
Napoleon Triplett, Principal.

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Project REAL (CETA); Berkeley, California.

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*Barbara Gerould, business teacher (sales class);
Bud Billings, District Supervisor of Business and Work Experience Education.

Mt. Diablo High School; Concord, California:
*Kathyrn Setencich, English teacher (leadership class for student body officers);
Lauren Fickett, Principal.

Neah-Kah-Nie High School; Rockaway, Oregon:
*Stan Arthur, environmental education teacher (educationally disadvantaged);
*Bill Smethurst, social studies teacher (U.S. History);
Don Langan, Principal and on-site coordinator of pilot test.

Consultants:
Dr. Joan Bloom
Dr. Ralph C. Bohn
Dr. Elizabeth Cohen
Dr. David W. Johnson
Mr. Donald P. Krotz
Dr. Don Langan
Dr. John Larson
Dr. Patrick Weagraff

*Denotes teachers who pilot tested the curriculum in their classroom.

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PREFACE

Our technological competence is surpassed only by our conceptual competence in designing new technologies and extending--even exploding--the boundaries of knowledge. Formal education and training cater almost solely to these cognitive and technological competences. It is a lack of competence in a third area--the skills of human association--which is the source of most of our problems and crises at all levels of the human community. Still, formal education does not provide specifically designed arrangements and opportunities for us to learn how to live, work and cooperate with others.

The thrust of the research reported here was: (1) to develop the skills needed to associate with others and be effective members and leaders of groups, (2) to design and develop arrangements and resources for the learning of those skills, and (3) to test the effect of learning on performance of group tasks.

The origin of this research effort dates back almost two decades. During the late fifties and early sixties, we designed an experimental program in Scouting that lead to the development and establishment of the new leadership/membership curricula of the Boy Scouts of America.

Capitalizing upon this early experimental program and based on a study of R&D work done by others in this domain, we proposed a project to the Research Branch of the Bureau of Occupational and Adult Education. The Bureau recognized the potential of the research we proposed and supported the effort reported here.

BHB

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INTRODUCTION

Abstract
Executive Summary
Project Data

ABSTRACT

The project reported here was supported by a Research Grant awarded by the Bureau of Occupational and Adult Education of the Office of Education.

The project examined the effects of learned leadership/membership skills on performance in task-oriented groups; developed competence-based instructional materials to teach such skills; and examined the effects of such skills on individual and group knowledge, skills, attitudes, and performance.

The materials developed by the project enable the teacher to organize small, task-oriented groups in a variety of instructional settings and to facilitate student growth in areas such as adjustment to task-oriented settings, effectiveness in group performance, satisfaction and self-development in group functioning, decision-making, problem-solving, interpersonal communication, and conflict resolution.

For accomplishing the project, the staff: (1) conducted the research and analysis required for the design of the curriculum; (2) designed and developed the curriculum; (3) evolved a design for pilot testing; (4) conducted extensive pilot tests of the materials in a variety of educational settings; (5) revised student and teacher materials based on pilot test findings; and (6) reported findings.

Products of the project include:

- In-house research reports, including the Review of the Literature on Leadership report, the curriculum design; and a classification of learning tasks;
- The Research Curriculum, consisting of eight modules which include student worksheets and an accompanying teacher's guide; and,

•This final report, which includes descriptions of the curriculum support materials developed for the experimental treatment, descriptions of the various phases of the project, a presentation of the analysis, and interpretation of findings.

The curriculum was tested in rural, suburban, and city schools in a variety of settings, including "traditional" classrooms, work-study groups, a class for the educationally disadvantaged, and a special program for student leaders.

Findings of the research project indicate that: (1) administrators, teachers, and students appreciate the need for, and value of, instruction in the cooperative group interaction skills area; (2) the skills in this area of competence are difficult to teach; and (3) extended research and development--which would take into consideration further testing, teacher training, curriculum fusion, and curriculum design at various levels of education--would be of significant value.

EXECUTIVE SUMMARY

This report describes the design, development, and pilot testing of a cooperative group interaction skills curriculum. The purpose of this project was to provide secondary schools with a curriculum which focuses on the specific skills and attitudes necessary for the successful functioning of individuals in societal groups and particularly in economic organizations. This curriculum was designed to help students to be effective in small task-oriented groups, and thus facilitate a healthy adjustment to leadership-membership requirements in typical job settings.

The project was begun in June of 1974 with an analysis phase which included a literature review, materials review, and needs assessment. Discussions and questionnaires gathered information from teachers, parents, counselors, managers, employers, and students. Specific needs having been established, the curriculum design (See Appendix A) and prototype modules were developed. Seven priority areas were identified as those to be addressed in the development effort: group communication, knowing and using resources, evaluation, conflict resolution, planning, coordinating activities, and sharing leaderships. As development proceeded, an eighth area of priority - decision-making - evolved

Extensive pilot testing over the following two years involved a variety of student settings - urban, suburban, rural; large schools and small; academically motivated students and under-achievers; vocational, experimental, and traditional academic classes.

Based on the analysis of the pilot test information, revisions were made in both the student and teacher components of the curriculum. The resulting research curriculum was given the title INTERACTION. That curriculum, contained in a separate volume, and this Final Report constitute the two major products of the project.

The research curriculum specifies learning/performance objectives for individual and group outcomes in the eight previously identified areas: 1) communicating effectively; 2) identifying and utilizing group resources; 3) resolving group conflicts; 4) planning for the group process; 5) evaluating individual and group performance; 6) sharing leadership-membership responsibilities; 7) making viable group decisions; and 8) cooperating with group members.

Findings and recommendations which emerged from the pilot test data are:

1) On the average, students who completed the cooperative group interaction skills modules felt that they had a "good" ability to apply the skills presented in those modules.
2) Teachers, students, and administrators judged the learning of cooperative group interaction skills to be important and valuable.
3) Based on observation by teachers and other adults, students who completed the modules applied skills they had learned there to other tasks required by groups in which they participated.
4) The skills in this area of competence are difficult to teach and require intensive involvement over at least one school year, and preferably longer, to affect behavior.
5) Further field testing is needed to determine the research curriculum's value as a clearly defined domain of the program of the school and to investigate the effect of learned skills on task/job oriented performance.
6) The development of a teacher training program to specifically prepare teachers to use the curriculum is strongly recommended.
7) The curriculum can be integrated with other domains of the school's program, and special effort should be made to develop materials to integrate a cooperative group interaction skills curriculum with Vocational Education programs.

3) Cooperative group interaction skills can be isolated and taught and should be introduced at a very early level in the educational process. Though this project developed materials for use in high schools only, it would be highly advisable to extend the curriculum into the earlier grades: junior high, intermediate, and primary levels.

The underlying concepts of a cooperative group interaction skills curriculum and the systematic approach for their implementation, identified and focused upon in this project, define an experience domain currently lacking in most group activities in and out of school, and therefore constitute an important contribution to the field of education at all levels of activity. Although this project was completed in September of 1976, it is hoped that the research curriculum and project report will be considered as substantive beginning, and that recommendations made above for extending and expanding the curriculum will be implemented.

PROJECT DATA

During the first year of the project (July, 1974 - July, 1975) the project staff completed Phase I (Analysis) and most of Phase II (Development) of the project. In completing this work, the staff engaged in a number of activities in each phase, such as the review and analysis of existing research and materials developed in this area, the formulation of an initial conceptual design, the development of prototype materials, initial pilot testing to gather formative data, subsequent revision of the prototype, and the development of plans for further extensive pilot testing during the school year 1975-76.

During the second year of the project (July, 1975 - July, 1976) the project staff conducted extended pilot testing at four sites on the West Coast and completed a detailed analysis of the pilot test data. This completed Phase III (Implementation and Testing). A final comprehensive revision of both student and teacher materials was accomplished. The compilation of this Final Report completed Phase IV (Report on Findings).

The Project Officer for the Office of Education was Velma Brawner.

The Principal Investigator for the project was Bela H. Banathy, Director of the Instructional and Training Systems Program at Far West Laboratory.

Staff for the first year of the project included the following: Samuel R. Bell, Project Associate; Luis O. Reyes, Research Assistant; William C. Roberts, Developer; and Laird R. Blackwell, Evaluation Specialist.

Staff for the second year of the project included the following: Dru S. Robinson, Project Associate; William J. Dunne, Editor and Consultant; and Celia F. Chesluk, Data Analysis Assistant.

Key staff people and/or school sites for the project included the following:

- Mesa Verde High School; Citrus Heights, California:
  - *Sam Cimino, Vocational-Technical Cluster (CGIS class);
  - *Lynda Veatch, Vocational-Technical Cluster Leader (Management class);
  - Carolyn Dodge, Vice-principal;
  - Napoleon Triplett, Principal.

- Far West School; Oakland, California.

- Project REAL (CETA); Berkeley, California.

- Prospect High School; Campbell, California:
  - *Barbara Gerould, Business teacher (Sales class);
  - Bud Billings, District Supervisor of Business and Work Experience Education.

- Mt. Diablo High School; Concord, California:
  - *Kathyrn Setencich, English teacher (Leadership class for student body officers);
  - Lauren Fickett, Principal.

- Neah-Kah-Nie High School; Rockaway, Oregon:
  - *Stan Arthur, Environmental education teacher (Educationally disadvantaged);
  - *Bill Smethurst, Social studies teacher (U.S. History);
  - Don Langan, Principal, and on-site Coordinator of CGIS pilot test.

*Denotes teachers who tested the CGIS curriculum in their classrooms.

Consultants to the project were:

Dr. Joan Bloom, Lecturer, School of Education, Stanford University

Dr. Ralph C. Bohn, Dean, Continuing Education, California State University, San Jose

Dr. Elizabeth Cohen, Stanford Center for R&D in Teaching, Stanford University

Dr. David W. Johnson, Professor, Educational Psychology, University of Minnesota

Mr. Donald P. Krotz, State Coordinator, Industry-Education-Labor, Industry Education Council of California

Dr. Don Langan, Principal, Neah-Kah-Nie High School, Rockaway, Oregon

Dr. John Larson, Director of Planning, Boy Scouts of America

Dr. Patrick Weagraff, Associate Commissioner for Occupational Education, Massachusetts State Department of Education

PART ONE: A DEFINITION OF THE PROJECT

Chapter One: Problem, Rationale, and Purpose

Chapter Two: Project Objectives

Chapter Three: Project Events

CHAPTER ONE: PROBLEM, RATIONALE, AND PURPOSE

The rationale for developing the cooperative group interaction skills curriculum for schools was based on the general proposition that there is a need in schools for a curriculum which focuses on the specific skills and attitudes which are necessary for the successful functioning of individuals in societal groups and particularly in economic organizations.

The individual in our society is faced with increasing demands for competent performance as a member--and often as a leader--of groups. Many young people have problems adjusting to, and working effectively in, the various groups encountered during and after formal education. Such groups include the family as well as various peer and societal groups--for example, groups oriented toward recreation, politics, fellowship, special interests, and community-service.

When people enter the world of economic organizations, they need to possess three kinds of competence. The first kind is comprised of a set of basic cognitive skills and the information/knowledge base that constitutes the common cultural content of our society. Most of the school's curricula addresses this domain of human capability.

The second domain is comprised of technical competences which enable them to perform the activities they are to carry out while functioning in a career. To be an electronic engineer or an electro-mechanical technician, for example, one must possess a certain set of technical skills.

The third domain may be called "life skill competences;" it is generic to all work and careers. This domain is looked upon as the common core of vocational and career education. It is comprised of three subsets. One set might include basic work habits, career decision-making skills, job-seeking and job-getting skills, and work values. The second set includes everyday life skills and habits. The third set is comprised of those competences which enable a person to work in concert with others. Since cognitive and technical skills are of no use if they cannot be applied in cooperative efforts with other persons, the interpersonal and group skills needed for cooperating with fellow employees are most important. A person's career--finding, maintaining, and advancing in employment--depends a great deal upon his or her command of group interaction skills--that is, his or her ability to work cooperatively with other people. Persons who cannot communicate, build meaningful relationships, or manage conflicts constructively are not selected for retention and promotion within economic organizations.

The proposition that both technical and human skills need to be emphasized in vocational and career education programs--in fact in all school programs--is derived from an understanding that, while our economic system is based upon the cooperative nature of humans, the socialization processes by which cooperative skills and attitudes are learned is rapidly changing. The influence of the family in the socialization process is rapidly decreasing, and, therefore, the need for educational programs which emphasize socialization is increasing.

What we now know about the leadership/membership continuum of social and personal behavior indicates that the skills involved in successful group performance can be identified and learned, and that that the best time to learn such skills is during the formative years of youth. Cooperative group interaction skills include the ability to: plan and work with others in a team; motivate other group members; know the characteristics and resources of the group; know how to use group resources; set examples; and share leadership. Unfortunately, our public schools have not provided curricula for the acquisition of these and similar skills.

Adjustment to the formalized structures of the various groups encountered during and after formal education--in school organizations, in work-study and eventually full-time employment, in community groups, etc.--appears to pose a problem for many young people. Small groups within larger groups are everywhere; they form the backbone of the world of work. Groups are the "functional contexts" of every student's future. Yet most youth graduating from high schools today have had little or no experience learning how to function as leaders and members of groups, beyond the largely informal and intuitive participation in peer groups. Even in school-related organizations, such as student government and extra-curricular clubs and activities, an introspective eye is rarely, if ever, focused on the very concepts of leadership and membership which make such groups work.

About the only contact some students have with the problems of group participation is in sports. The role of the captain is generally understood, as in the "team" notion of individual players contributing to the whole effort. Yet school sports alone are unsatisfactory as a basis for training young people for group behavior. There are two reasons for this. First, students do not usually concentrate on the principles involved in group processes, such as those which help them develop some insight about what makes leaders and members work together and need one another. Second, without such generalizations, there is no opportunity to effect some transference between the athletic activities and other group settings, such as those in employment.

Although it may take many years to acquire such skills as those required for effective leadership/membership performance, our schools could provide a head start on the development of such skills. The time seems right for such innovations in the curriculum, for schools are changing. The assembly-line, mass-production, closed system approach to education is now becoming more open and fluid. The typical structure of the classroom--student desks arranged in straight rows--is changing, and we now see widespread experimentation with small groups, project teams, laboratory clusters, peer teaching, and learner-centered organizations.

The world of work is changing as well. Even very large industrial organizations are trying new structures of group organization, such as the automobile companies which have constituted "teams" responsible for the entire assembly of a car. Although students may have had some preparation for their work settings in terms of fulfilling the role of accountant, salesperson, or technician, they have had virtually no training in the respective features of leadership/membership roles. Students need to learn about the responsibilities and opportunities of group participation and the reciprocal relationship of leadership and membership. The dignity of each role must be emphasized. The commitment of this project was to the idea that everyone needs to be aware of and understand--before or while entering the job situation, not years after--that at any one time a person may be called upon to exercise group leadership as well as membership skills.

As Dahl points out in Who Governs,* the majority of the population is eventually faced with leadership challenges. The person who takes up directing traffic at the scene of a street emergency, the soldier in combat who is elevated by necessity into a decision-making capacity, the citizen whose initiative results in a community change--these are all examples of people assuming leadership opportunites thrust their way. Students should be helped to realize how this can happen to them in their school and work settings, and to become prepared for it by understanding just why groups are structured the way they are and how each individual's actions contribute to both group and individual success.

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*Robert A. Dahl, Who Governs: Democracy and Power in an American City. New Haven, Conn.: Yale University Press, 1961.

Even though the need for acquiring leadership/membership competence is strongly indicated, very little attention has been given in formal educational settings to meeting such a need. Some community organizations, such as the Boy Scouts of America, are developing long-range, systematic programs. Some large corporations have training programs, but these are of obviously limited effectiveness, as "leadership sessions" and "management training" is often reserved for selected employees. However, most business organizations and government agencies have no training in membership skills whatsoever.

The transition from school to the world of work can be filled with confusion and conflict. Perhaps many of the initial failures of young people in adapting to the needs of their employers results from a lack of understanding of the group relationships which operate in work settings, as well as a failure to exercise the appropriate behaviors for both leadership and membership situations in specific jobs.

Vocational education has traditionally helped youth prepare for job entry; therefore we think it is appropriate to look to the vocational education curriculum for training in leadership/membership skills and understandings. Making personal and social adjustments is a concomitant part of preparing for and entering into any new group situation, whether in school or in the world of work. We should begin in schools before adult behavioral patterns have been established, and while the student can still experiment with alternative ways of dealing with group participation. We think this problem lies at the base of youth's acculturation and socialization to the society. We believe that we have provided here, by design, an area in the school curriculum which offers students practical, tangible learning about group leadership and membership skills.

The project tested the effect of training students in public schools for their leadership and membership roles in the world of work. The strategy was to identify skills and understandings related to effective leadership/membership functioning and to develop an experimental curriculum which would be used in secondary schools. This curriculum was designed to help students to be effective in small groups and thus facilitate a healthy adjustment to leadership/membership requirements in typical job settings. The hypothesis was that students exposed to this experimental curriculum in schools would be more effective in task-oriented groups than students who do not have similar preparation.

This project addressed a problem of national significance: the adjustment of youth to their participation in task-oriented groups, in terms of their understanding, development, and exercise of skills in leadership and membership roles. The curriculum that emerged from this project could evolve into a new curriculum domain in group interaction.

CHAPTER TWO: PROJECT OBJECTIVES

A Summary Definition

The purpose of the project was to test the effect of developing competence in students assuming leadership and membership roles in groups. The strategy used was to (1) identify skills and understanding related to effective leadership/membership functioning; (2) develop an experimental curriculum; and (3) test it in secondary schools with students in a wide variety of educational settings, some of whom were entering work-study programs. The curriculum intended to help students be effective in small groups and thus facilitate a healthy adjustment to leadership/membership requirements in typical job settings. The hypothesis was that students exposed to this experimental curriculum in schools would become more effective in performing tasks in group settings. Variables on which the differences in performance were measured included: adjustment to group setting, self- and group-satisfaction, effectiveness in group performance, the avoidance or resolution of conflict with group members, and opportunities exercised for leadership.

Project objectives will be described in three categories: (A) Learning/Performance Objectives; (B) Process Objectives; and (C) Product Objectives.

A. Learning/Performance Objectives

Following are the learning/performance objectives for the groups as well as for the individual students. Objectives are presented for each of the eight modules in the research curriculum.

LEARNING OUTCOMES - MODULE I - COMMUNICATING

Group Objectives

The purpose of this module is to help the group communicate more effectively within itself and with other groups. The group will improve its ability to:

1. give information;
2. receive information;
3. remember information; and
4. understand some of the ways that individual and group interpretation can affect how people communicate.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge, and skills. Each student will improve his or her ability to:

Attitudes.
  - be sensitive to individual and group feeling.
  - accept the responsibility for trying to understand another's view and values.
  - value the sharing of information.

Knowledge.
  - know how to give information.
  - know how to receive information.
  - understand that an individual's values will affect communication.
  - know how to keep information.
  - know how to remember information.
  - know how to involve others in a group discussion.

Skills.
  - express group feelings.
  - give information.
  - identify interpretation.
  - keep/remember information.
  - help others participate.

LEARNING OUTCOMES - MODULE II - USING RESOURCES

Group Objectives

The purpose of this module is to help the group assess its resources in relation to a given task. The group will improve its ability to:

1. identify the resources that are needed to accomplish the given task.
2. identify resources available to the group.
3. determine the probability of completing the task with the available resources.
4. identify ways to develop other needed resources.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge and skills. Each student will improve his or her ability to:

Attitudes.

- acknowledge the positive contributions each individual can make to the group.
- accept the abilities and limitations of others.
- accept his own abilities and limitations.

Knowledge.

- develop a broad understanding of the term resources.
- know his or her own resources.
- know the abilities of other group members.
- understand the constraints affecting the use of the resources of the group.
- understand the subjective factors involved in making a decision about which resources to use.

Skills.

- assess and effectively use the group resources with respect to getting the job done and maintaining group unity.
- identify resources needed for alternative plans.
- assess the probability of the group accomplishing the task with the avilable resources.

LEARNING OUTCOMES - MODULE III - RESOLVING CONFLICTS

Group Objectives

The purpose of this module is to help the group resolve conflicts. The group will improve its ability to:

1. determine the cause of group conflicts.
2. figure out different ways to deal with such conflicts.
3. recognize the beliefs and goals which the group members share and which, therefore, can be used in conflict resolution.
4. know, respect, and deal with individual and group differences while trying to resolve conflicts.
5. use conflict resolution to improve how the group stays together and gets its work done.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge, and skills. Each student will improve his or her ability to:

Attitudes.

- appreciate conflict resolution as a group tool which is necessary for doing jobs and achieving goals;
- appreciate the importance of dealing with conflicts honestly and openly;
- appreciate the importance of explaining his or her beliefs and goals while trying to resolve conflicts.
- appreciate and respect differences among people and groups.

Knowledge.

- understand the meaning of the word conflict.
- know the different causes of conflicts.
- know different ways of dealing with conflicts.

- know how well he or she can deal with conflicts and how well others can deal with conflicts while working as a group to get a job done.

Skills.

- recognize types of conflicts and causes of conflicts.
- explain his or her beliefs in order to help resolve group conflicts.
- figure out different ways of resolving conflicts.
- express his or her own feelings while dealing with conflicts honestly and openly.
- apply conflict resolution skills to personal, everyday jobs.

LEARNING OUTCOMES - MODULE IV - PLANNING

Group Objectives

The purpose of this module is to help the group plan a task. The group will improve its ability to:

1. determine the nature of the task (what must be done, where, when, why, and by whom).
2. determine the resources available for the task.
3. determine obstacles that may hinder the accomplishment of the task.
4. generate several alternative ways to accomplish the task.
5. establish the basis for selecting an alternative.
6. decide which alternative to use.
7. determine the details of the plan (who will do what, when, where, how).
8. evaluate their planning process, based on their ability to accomplish the above steps.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge and skills. Each student will improve his or her ability to:

Attitudes.

- value planning as a necessary process for accomplishing tasks and achieving goals.
- value a systematic approach to tasks.
- value the generating of alternatives before reaching a group decision.
- value the use of group decisions in planning as a means of getting the greatest possible commitment from the group.

Knowledge.

- understand the tasks to be accomplished.
- understand the constraints created by the situation.
- understand the need for consistency between a chosen plan and the group's goals and resources.
- understand a technique for planning, and
- understand the need to gather information before determining a plan of action.

Skills.

- state the task in concrete terms.
- propose several alternative ways of accomplishing the task.

- identify resources he can provide for each alternative.
- gather and assess information pertinent to the task.
- identify decisions that need to be made and problems that need to be solved.
- assess alternatives on the basis of the probability of the group's being able to carry them out successfully.
- apply a planning process to personal tasks.

LEARNING OUTCOMES - MODULE V - EVALUATING

Group Objectives

The purpose of this module is to help the group evaluate group performance and cohesion during the accomplishment of a task. The group will improve its ability to:

1. determine what should have happened in a situation.
2. determine what did happen in the situation.
3. notice similarities and differences between what happened and what should have happened.
4. determine reasons for these similarities and differences.
5. decide what to do to improve in the future.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge, and skills. Each student will improve his or her ability to:

Attitudes.

- be willing to evaluate him or herself and others.
- accept constructive criticisms and suggestions from fellow group members.
- accept new ideas and change
- appreciate the importance of constant evaluation of group performance as a first step toward improvement.

Knowledge.

- know when changes must be made in a situation.
- understand that conflicts may develop between accomplishing a task and maintaining the group.
- know the questions to ask when evaluating.
- understand the role that goals and values play in evaluation.

Skills.

- observe the group and evaluate its performance in a given situation.
- apply the evaluation process to a personal task or activity.
- identify personal values and their relationship to the group's values.

LEARNING OUTCOMES - MODULE VI - SHARING LEADERSHIP

Group Objectives

The purpose of this module is to help the group recognize leadership qualities in all members of the group and think about how power is used in the group. The group will improve its ability to:

1. seek leaders who help the group get its job done and help it stay together.
2. seek leaders who have valid bases of power.
3. seek leaders who share leadership rather than manipulate people.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge, and skills. Each student will improve his or her ability to:

Attitudes.
- value his or her own abilities to lead.
- respect others' abilities to lead.
- value the qualities of leadership and of shared leadership.
- value the proper use of power and influence.

Knowledge.
- know the qualities of leadership.
- understand his or her own leadership abilities.
- understand the leadership abilities of other group members.
- recognize and understand the proper and improper bases and uses of power.

Skills.
- participate in the leadership process.
- use power and influence properly.
- share leadership with other group members.

LEARNING OUTCOMES - MODULE VII - MAKING DECISIONS

Group Objectives

The purpose of this module is to help the group practice decision-making in a number of different ways and to learn the uses of each way. The group will improve its ability to:

1. understand and use seven ways of making a decision.
2. understand advantages and disadvantages of each way of making a decision.
3. recognize situations in which each of the seven ways will or will not work.
4. recognize and consider factors in a situation which make a particular way of decision-making most appropriate for that situation.

5. choose the way of decision-making which is most appropriate for a particular situation.
6. evaluate the effectiveness of a decision and the choice of a way of decision-making.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge and skills. Each student will improve his or her ability to:

Attitudes.
- understand the importance of choosing a way of making a decision which is appropriate to the situation.
- value participation by the whole group in deciding which way of decision-making is best in a particular situation.
- value decision-making by the whole group over decision-making by a single person or by a small part of the group in most situations.

Knowledge.
- understand seven ways in which a decision can be made in a group.
- understand the advantages and disadvantages of each of these ways.
- recognize situations in which easy way will or will not work.
- recognize the factors in a situation which help to determine which way of decision-making fits that situation.

Skills.
- take part in any of the seven ways of decision-making.
- determine which way of decision-making is most appropriate in a particular situation.
- evaluate the effectiveness of a decision and the choice of decision-making method which led to it.

LEARNING OUTCOMES - MODULE VIII - COOPERATING

Group Objectives

The purpose of this module is to help the group practice cooperative effort during the accomplishment of a task. The group will improve its ability to:

1. harmonize the activities of various members and subgroups.
2. observe group action to determine its effectiveness.
3. determine why the group has trouble working effectively when problems arise.
4. express group standards and goals.
5. stimulate all group members to do better work.
6. set a good example by each member's own work.

Individual Student Objectives

This module has been designed to help students develop certain attitudes, knowledge and skills. Each student will improve his or her ability to:

Attitudes.

- accept the responsibility of helping cooperative effort in the group.
- value cooperative effort over competition.
- value the sharing of responsibility for helping cooperative effort in the group.
- value all the group interaction skills for their use in helping cooperative effort.

Knowledge.

- understand the interrelatedness of all cooperative interaction skills and their relation to cooperative effort.
- understand the six ways to help cooperative effort.
- understand the need for each of these six ways.

Skills.

- carry out the six ways of helping cooperative effort.
- identify which ways are not being used in situations where cooperative effort is not occurring.
- determine ways to improve the cooperative effort in a group.

B. Process Objectives

The process objectives of the project include objectives relevant to: (1) research and analysis; (2) design and development, and (3) pilot testing.

1. Research and Analysis

•To conduct a search of the literature for information and concepts relating to group participation processes in the work setting, including such various aspects of leadership/membership as peer interaction, group decision-making, and communication with co-workers and supervisors.

•To select and review materials used by industrial, government, volunteer, and other organizations for training in leadership/membership competencies to obtain specific skill and understanding clusters which would contribute to the basis of the experimental curriculum.

•To interview leadership trainers, managers, employers, students, teachers, school counselors, parents, and others familiar with the student's personal and social adjustment to work settings, and to observe selected training sessions.

- To analyze the data gathered from literature search, review of training materials, and interviews and observations in order to elicit a taxonomy of leadership/membership skills and understandings which would form the basis of a curriculum aimed at easing job adjustment for students in work-study programs.

2. Design and Development

- To design, on the basis of the analysis conducted in Phase 1, specifications for a set of curriculum materials which are directed at the acquisition of skills and understandings related to leadership and membership roles and functions.

- To construct preliminary prototypes of simulation exercises and supportive materials which form the basis of a course in group participation (leadership/membership) which can be administered in the public school setting.

- To develop means by which to test the acquisition of skills and understanding.

- To prepare for testing of the experimental curriculum by: (a) defining what evidence we intend to look for in measuring the effectiveness of the curriculum treatment (e.g. the job satisfaction, supervisor's ratings of initiative and cooperation, incidence of conflict with others, effectiveness in group participation, attendance); (b) determining what information we are going to collect to provide for this evidence; (c) selecting and/or developing instruments to collect the data; and (d) establishing procedures for the analysis and interpretation of the data.

- To conduct an initial pilot test of the curriculum prototypes to obtain formative evaluation data on the effectiveness of the curriculum components.

- To revise the experimental materials, based on the findings of the initial pilot testing, into a form suitable for more extensive pilot testing.

3. Pilot Testing

- To select a sample of students involved in a variety of educational settings, including one group engaged in, or about to enter, work-study programs.
- To determine experimental treatment and to schedule and carry out the experimental curriculum with the sample over a designated training period.
- To follow up on the students exposed to the experimental treatment by maintaining a continuous evaluation of their adjustment to employment through questionnaires, interviews, and observations, and also to make similar evaluation arrangements for the control group.
- To verify or reject the hypothesis that the experimental curriculum on leadership/membership will facilitate the adjustment and performance of students to leadership/membership roles.

C. Product Objectives

The following products resulted from the project:

- A report, Review of the Literature on Leadership.
- A taxonomy of curriculum goals designed to provide a basis for curriculum-making in the area of leadership/membership and understanding how groups function.
- A research curriculum consisting of simulation exercises, group problem-solving and work activities, and their supportive materials (i.e. guides, manuals, props).
- A report of the effects of the experimental curriculum and other findings of the project together with descriptions of the project strategies and activities.

CHAPTER THREE: PROJECT EVENTS

The R&D program of the project has been carried out in seven phases: (1) research and analysis; (2) curriculum design; (3) development of pilot curriculum; (4) initial pilot testing and revision; (5) extended pilot test design; (6) extended pilot testing and revision; (7) analysis of findings and reporting. In this chapter, each of these phases is briefly described.

•Research and Analysis

An early activity was to review and analyze existing research and development in such areas as group participation and group functioning in a task-oriented work setting. During that time, the staff also sought to collect the views of the various constituencies involved in the study--students, teachers, school administrators, employers, parents, and employees. Thus, the analysis activities developed in three distinct directions:

1. A review of the research literature on leadership development and group participation processes in the work setting, including such various aspects of cooperative group interaction as peer interaction, group decision-making, and communication.
2. A review of materials used by industrial, government, military, volunteer, and other organizations for training in cooperative group interaction skills to obtain specific skill and understanding clusters which would contribute to the basis of the experimental curriculum; and ,
3. Informal discussions at identified cooperating school sites and structured questionnaires directed at teachers, managers, employers, students, school counselors, parents, and others familiar with the

students' personal and social adjustment to work settings.

The review of research was extended and combined with material developed previously to produce a comprehensive review of the literature on leadership and cooperative group interaction skills development.

• Curriculum Design

The design of the experimental curriculum commenced with the construction of a curriculum map, which displayed the "universe" of leadership and cooperative group interaction competences. A study of this map led to the selection of a specific set of competences to be addressed by the experimental curriculum. In addition, a prototype module was designed based on a subset of those competences. The curriculum map and the prototype module were presented for critique to consultants and cooperating school personnel in early November, 1974. An Internal Review Panel at Far West Laboratory also reviewed design information and provided feedback to the project staff.

Thus, the final design decisions were based upon the input from three sources: school site personnel, consultants, and the Far West Laboratory Internal Review Panel. The final design decisions were made relevant to: (1) the format for the pilot test version of the instructional modules and (2) identification of the precise competence areas to be addressed by the materials which the project would develop.

• Development of Pilot Curriculum.

Following these design decisions, the project staff moved into the development of the instructional modules. The project staff approached the development task as a team: planning sessions were held to outline a module; one staff member then developed a draft from the outline; the draft was reviewed by other staff members and revisions suggested; and the revisions were made and the preliminary pilot test draft submitted to the site personnel for their review and recommendations.

• Initial Pilot Testing and Revision.

As the project staff began producing the draft of the experimental curriculum materials, these materials were pilot tested in three very different settings. This test was not a formal, structured test of the entire program. Rather, it was an effort to get the first draft of the materials to teachers and students during the late winter and spring of 1975 and to provide the project staff with formative evaluation information so the materials could be revised and prepared for further pilot tests during the school year of 1975-76. Thus, the staff sought to have as many of the modules used as possible in at least one setting.

As is the usual procedure, the objective of the pilot test was to assess the materials in as discrete units as possible. Thus, the staff sought data regarding how students and teachers reacted to specific activites (Did they like them? Did they accomplish the objectives?) or generalized reactions to a module. This formative evaluation information was invaluable in the revision of the materials for the later pilot test.

During the initial pilot testing, materials from this project were implemented in three school districts. At Mesa Verde High School in Citrus Heights, California, the materials were used in a business management class in the Vocational/Technical Cluster. In the Berkeley Unified School District, the curriculum was pilot tested in two situations: (1) in an office experience class at Berkeley High School; and (2) in an office skills program at the Vocational Education Center. The third pilot test site was Far West School, a career education high school operated by Far West Laboratory for the Oakland Public Schools under NIE's Experience-Based Career Education Program.

Based on this pilot testing, revisions were made in the materials. There were numerous changes in specific activities and the module layout as well as a few program-level adjustments.

•Extended Pilot Test Design.

During the last spring, 1975, the staff addressed the issues of: (1) design and instrumentation of the full pilot test; and (2) logistical arrangements to set up test sites.

The test design called for an assessment of the impact of the curriculum at the following levels: the employment/community, the school as an institution, the instructional level, the learning experience level, and the impact of learning. Each level was subdivided into specific purposes for the evaluation (user satisfaction, feasibility, effectiveness, and/or usefulness). These purposes were then prioritized and the specific information to be collected was identified. Beyond this point, the design specified the source of the information, the procedure and timing of data collection, the person(s) responsible for data collection and analysis/interpretation.

In June of 1975, the project was visited by OE Project officer Velma Brawner, at which time a detailed report was presented on the progress made and achievements attained.

•Extended Pilot Testing and Final Revision.

During the summer of 1975, plans were made for extending the pilot testing into one site for the fall semester and additional sites later in the school year.

The program was implemented during the fall semester in a management class in the Vocational-Technical Cluster at Mesa Verde High School in Citrus Heights, California. Testing there was completed in January, 1976. At that time, the program was implemented at three school sites for the spring semester: a leadership class for student body officers at Mt. Diablo High School in Concord, California; a sales class involving work-study students at Prospect High School in Campbell, California; and two classes--a newly-created program for "educationally disadvantaged" ninth graders, and an eleventh-grade U.S. History class--at Neah-Kah-Nie High School in Rockaway, Oregon. Pilot testing at these sites was concluded in June.

Based on the information gathered during the pilot testing, revisions were made in both student and teacher components of the research curriculum.

- Analysis of Findings and Reporting.

The data collected from the various pilot test sites during the year of pilot testing was analyzed during the late spring of 1976. Results are summarized in this Final Report in September, 1976.

- Special Presentations

The Principal Investigator, Bela H. Banathy, made two presentations of the project. One was at the 1975 annual meeting of the American Vocational Association. The other was at the 1976 annual meeting of the American Industrial Education Association.

PART TWO: A DESCRIPTION OF R&D MATERIALS

Chapter Four: Findings of Research, Analysis, and Design

Chapter Five: A Description of the Research Curriculum

Chapter Six: A Description of the Information Collection Means

CHAPTER FOUR: FINDINGS OF RESEARCH, ANALYSIS, AND DESIGN

The analysis phase of the project involved a three-faceted effort to collect relevant information: (1) a review of training materials; (2) a review of the literature, and (3) a needs assessment.

Review of Training Materials.

A total of twenty-five curriculum materials (guides, descriptions, content, and complete curricula) and six related articles were reviewed. Fourteen of the twenty-five curriculum materials were selected for analysis, based upon their general relevance to the leadership curriculum domains. (Additional materials were reviewed later in the project as they became available or as project time allowed.) Based on this analysis of curriculum materials and their support of the content areas emerging as relevant to a leadership/membership curriculum, it was apparent that additional curriculum materials were needed to support the following content areas: interpersonal relations (values of others, interpersonal communication); group cohesion/maintenance (cooperative effort, role model, and shared leader/member roles); and group productivity (information processing, sharing, and group guidance.)

Review of Literature.

From the literature search, twelve documents were selected for review. Based on the review, the following general conclusions were drawn about the nature of leadership and the direction that leadership development programs should take.

Leadership is not the result of a specific or general set of personal characteristics or traits inherent in a person which are equally relevant across a variety of group situations. Leadership does involve an interaction of leader, group member (followers), the structure of the task, and situational characteristics which move the group towards attainment of its group goals while satisfying the needs and expectations of leader, group, individual members, and outside superiors. The successful balance of these needs, expectations, and goals is translated into effective and efficient group performance (i.e., productivity), maintenance of group cohesion, motivation, and satisfaction.

The most effective type of leadership is that which is characterized by flexibility on the leader's part in relating his role or style of leadership to the needs and characteristics of the group members and to the situational demands. The most effective leader is the one who can best facilitate attainment of group goals and satisfy inter-member expectations. Important ingredients in this equation are: a commitment to group participation; involvement of group members in defining goals and roles; and a conception of leadership as being diffused based on each individual's contribution to the attainment of group goals.

It is recognized that the best solutions to group problems and task achievement are those which grow out of the combined resources of the group and which make use of the potentials of all its members. If one envisions and accepts a membership/leadership continuum as a central concept, it follows that leadership education also means membership education, and membership development shall include leadership development. This position, a key idea of this prospectus, is also grounded in the realization that there is no one person who, in discharging his different roles in life, would act only in leadership roles; and there is probably no one person who would play only membership roles. In some form, at some time, and on some occasion, at least, every individual shares leadership functions with others. A far-reaching implication of the membership/leadership continuum is the need for leadership/membership education for all.

The following are general recommendations for a leadership/membership curriculum based on the review of the literature:

(1) The program should incorporate the above, both in the content and the context of the learning process.

(2) Attitudes, knowledge, and skills to be learned should include emphasis on learning interpersonal, communications, cultural sensitivity, problem-solving, decision-making, information-processing, and evaluation skills.

(3) The skills learned and the environment of the leadership/membership development program should be structured such as to relate closely to the conditions for which the trainees (learners) are being prepared for maximum leadership development transferability.

(4) The success and effectiveness of leadership/membership development programs must be evaluated in terms of the effect of such training on group productivity, cohesiveness, and satisfaction.

(5) Programs should prepare trainees to adapt flexibility to the needs and characteristics of the different tasks, groups, and situations in which they will be called upon to exercise their learned leadership/membership competence.

Needs Assessment.

As the third part of the analysis phase, the staff conducted a needs assessment of leadership/membership education. It was the staff's belief that those most closely involved in the career and vocational development of young people could best describe the current situation and enumerate the needs in this area. The staff also drew upon the experiences and insight of those who have participated in other programs concerned with leadership/membership education.

To gather perceptions from relevant audiences at the pilot sites, interview questionnaires were developed and pilot tested through the cooperation of the Berkeley site. These instruments were then used to interview site people at San Juan Unified School District, Berkeley Unified School District, and San Lorenzo Unified School District. Interviewees included students, teachers, parents, employers, and young employees.

Interviewees were given a questionnaire which they completed in the presence of the Far West Laboratory staff members. The questionnaire was then discussed and the responses probed for clarification and extension of comments. While the questionnaires were similar in many ways, there was a distinct version developed for each audience. All of the audiences except teachers were given a closed-ended questionnaire that provided opportunities for respondents to list "other" answers. However, this option was rarely used and, in essence, the response choices listed became the parameters of response. Not even the probing of responses by the interviewer was able to significantly expand the variety of responses.

In an effort to get the reaction of people who have been exposed to leadership/membership training, an open-ended, two-item questionnaire was sent to former participants in the Monterey Bay Area Experimental program of the Boy Scouts of America called the White Stag program. This program was developed to provide leadership/membership training for scouts and emphasized many of the same skill areas that were to be included in the research curriculum. Further, a similar questionnaire was given to another group of White Stag participants (and their parents) at a weekend retreat in September, 1974. At this retreat, the participants were asked: (1) What are some problems young people have in dealing with others? and (2) What are some skill areas that training should attend to? These questions were asked in the context of the leadership/membership training of White Stag.

The young people (students and employees) who responded most often saw lack of communication as the major problem. Generally, they saw it in terms of elder-younger (in the work setting, translated employer-employee). Related to this problem, many students felt that those in authority (employers, teachers, and parents) seldom gave the young people an opportunity to show what they could do. The solutions that the students proposed generally called for changes in the behavior of the person in authority (understanding, give us a chance, etc.). However, some also proposed that young people need to be able to accept responsibility, to give advice without "ordering," to be tactful and diplomatic, to have confidence that they can do the job, and to accept compromise when necessary.

The adults who responded indicated that young people have a problem meeting such routine work demands as: punctuality; following directions; accepting responsibility; and commitment to the job or company. Most of their suggestions regarding skill areas were concerned with job-related skills or basic skills (reading, etc.). While these are, of course, important, they were not the concern of this project. A few did mention that young people need skills in planning, self-evaluation, communicating, and goal setting.

In interviews at the school sites, the staff attempted to identify: (1) problems that young people encounter in small group situations: (2) those useful skills and attitudes that they bring to a group situation; (3) what further skills the young people need; and (4) what the schools are currently doing to develop these skills.

In the ranking of problems that young people must deal with, parents, students, young employees, and employers were alike in that equal emphasis was given to those options listed (disagreements with superiors or co-workers, not sharing work or responsibility, and lack of communication). No single one predominated. On the other hand, the young people (students and employees) felt that their best strengths were the ability to communicate with one another and their willingness to follow directions.

In their open-ended questions about these points, teachers felt that students encounter problems when they don't know what is expected of them on the job, when they feel the employer or supervisor is not helping them "learn-the-ropes," when they won't accept the ground rules about dress, hours, etc., or when they resist the autocratic structure of the work setting. To meet these problems, teachers feel that students are cooperative, willing to work and learn, serious about improving themselves, willing to question status quo, and are able to listen and to observe. On the negative side, they also see some students as self-centered, uncompromising, or passive.

In the remainder of the interview, the staff collected the respondents' ratings of the skill areas already identified by the project, their suggestions for additional skill areas, and their perception of whether their school currently addresses these skill areas. The skill areas to be rated were:

1. The ability to get and give information.
2. The ability to get to know--and know how to use--the resources of the group.
3. The ability to understand the characteristics and needs of group members.
4. The ability to plan, evaluate, control, and correct group performance.
5. The ability to share leadership.
6. The ability to represent the group and set examples.
7. The ability to extend helping relationships and counsel to group members.

Across all the audiences, each of the skill areas were rated high (approximately 2.5 or better for each one on a scale where 3 = highest). When teachers and students were asked how well the school program addressed these areas, the responses were that the school program did, but only with limited success. When asked to specify the part of the program that attempted to develop these skills, a wide variety of responses were given: social studies or English classes in the high school, a media course, and their own specific vocational/

education program. This lack of a consistent pattern seemed to suggest that the attention to these skill areas was idiosyncratic to certain teachers or classes rather than a program component. Such could help explain the limited success.

It was assumed by the project staff that as development, pilot testing and revision were conducted, the needs assessment process would continue in an effort to extend the project's "reality base."

Curriculum Design.

Based upon the Analysis Report, the project staff developed a comprehensive curriculum map which outlined fourteen possible content areas and specified learning outcomes for attitudes, knowledge, and skills to be attained in each of these content areas. Further, they developed a module prototype.

Interim Report.

By the end of December, 1974, the Analysis Phase of the project was completed. This phase (the interviewing and the materials/literature review) was summarized and compiled with the design products (curriculum map and prototype module) in the Interim Report. The report was submitted to the Technical Advisory Panel (TAP) as well as pilot site personnel for review and comment. It served as the focus of a General Site Meeting on November 20, 1974. The meeting was attended by representatives from the various pilot sites, two members of the TAP, and representatives from possible additional pilot sites. Through subsequent discussion between project staff, consultants, and site personnel, seven priority areas were identified as those to be addressed in the development effort: group communication, knowing and using resources, evaluation, conflict resolution, planning, coordinating activities, and sharing leadership.

Design Findings.

The findings of the design phase were applied to the development of the research curriculum, to be described in the following chapter (Chapter Five).

CHAPTER FIVE: A DESCRIPTION OF THE RESEARCH CURRICULUM

The development of the CGIS curriculum began with the prototype modules, which came out of the design phase, and evolved through several revision processes to the field test version of the research curriculum, entitled INTERACTION. (References to the curriculum using the letters CGIS indicate either prototype or pilot modules or cooperative group interaction skills as an approach. References to INTERACTION indicate the field test version of the research curriculum.)

Revision of the Curriculum

Formative evaluation data gathered during the pilot test program indicated that the materials could be strengthened if they were made less abstract and academic and if the student materials - in terms of language, organization, presentation, and evaluation forms - were simplified. In other words, if the materials were "loosened up" and aimed more directly at the interest level of secondary students, those students would gain more from the curriculum.

Therefore, following the pilot test program, extensive revision of the materials was completed. In that revision, the following areas were attended to:

1. The general presentation of ideas and activities was made more concrete.
2. The contexts for simulation exercises were made more familiar, believable, and interesting to students at a secondary level.
3. The language level of all student worksheets was simplified.
4. The instructional test was more specifically geared to the concepts and skills focused upon in the module.
5. Unnecessary repetition in the language, presentation, and structure of the modules was eliminated.
6. Evaluation forms which had been relevant only to the pilot test program were removed.

7. A visual format, though limited graphically by cost restrictions, was created to add visual interest to the worksheet page.
8. Some information relevant to the curriculum, but difficult for some students to understand, was transferred from the student to the teacher materials. (The teacher would have the option of using this information or not depending on whether or not students could comprehend it.)
9. The teacher materials were extended to include rationale and extensive directions for the successful implementation of the materials.
10. The title of the curriculum was changed from Cooperative Group Interaction Skills Curriculum, which was considered long and difficult for students to understand or remember, to INTERACTION.

This chapter views the INTERACTION curriculum from several perspectives:

1. an overview of the general purpose and activities of each module;
2. the internal organization of the modules;
3. the evaluation activities;
4. the physical format;
5. procedures for presenting the curriculum; and,
6. resources needed by the teacher.

Overview of the Curriculum

The purpose of the INTERACTION Curriculum is to provide students with the information and skills they need to work effectively in task-oriented groups. The curriculum is presented in eight units or modules, each of which emphasizes a particular set of group interaction skills and attitudes. While it is recommended that all eight modules be presented as a curriculum, any one module is self-contained and can be used independently.

The eight Modules are summarized as follows:

Module I: Communicating

The general purpose of this module is to help students acquire skills, knowledge, and attitudes that will enable them to communicate effectively within their group and with other groups. The activities in this module are designed to help students: (1) identify the ways they communicate; (2) discover obstacles to effective communication; (3) relate effective communication to group performance and group cohesion; and (4) apply what they have learned to real tasks.

Module II: Using Resources

The general purpose of this module is to help students learn how to identify and use the resources of their group in order to perform a given task. The activities in this module are designed to help students: (1) establish a broad definition for the term resources; (2) identify personal and group resources; (3) understand how resources can be used to improve group productivity and to maintain group cohesiveness; and (4) apply what they have learned to given task situations.

Module III: Resolving Conflict

The general purpose of this module is to help students acquire skills, knowledge, and attitudes that will enable them to resolve conflicts effectively within their group and with other groups. The activities in this module have been designed to help students: (1) establish a broad definition for the term conflict; (2) clarify their own values and understand and respect the values of others; (3) develop a method based on awareness, analysis, and action to resolve group conflicts; (4) understand how conflict resolution can improve group productivity and maintain group cohesiveness; and (6) apply what they have learned to real tasks.

Module IV: Planning

The general purpose of this module is to help students learn a planning process which can be applied to either group tasks or individual activities. The activities in this module have been designed to help students: (1) define a task; (2) consider available resources; (3) consider possible obstacles in the situation; (4) consider alternatives; (5) determine the basis on which to select a plan; (6) choose a plan; (7) consider the details; and (8) evaluate their planning.

Module V: Evaluating

The general purpose of this module is to help students learn a process for evaluating group performance. The process also can be adapted to evaluating individual performance. Group performance is evaluated in regard to two main aspects: (1) accomplishment of the task and (2) maintenance of group cohesion or unity. Students are helped to arrive at criteria for judging or evaluating group performance and then to judge performance according to those criteria.

Module VI: Sharing Leadership

The general purpose of this module is to help students learn some qualities of leadership and study some effects of the use and the misuse of power. Students will also study some bases of power and will be introduced to the concept of shared leadership.

Module VII: Making Decisions

The general purpose of this module is to help students learn some different ways in which decisions can be made in a group. The way of decision-making (in particular, the person or people chosen to make the decision) must be appropriate to the decision and the situation if an effective decision is to be made. In addition to studying seven ways of decision-making and the advantages and disadvantages of each, students learn to identify factors in a situation which can help them choose an appropriate way of decision-making and to evaluate decisions they have made in terms of effectiveness.

Module VIII: Cooperating

The general purpose of this module is to help students learn some ways of cooperating with others in a group. A group can maintain a high level of cohesiveness and efficiency only if all its members help in the cooperative effort. Since this is a summary module, students also are shown ways in which all the group interaction skills they have studied in the INTERACTION curriculum are useful and necessary for cooperating with others in a group.

Module Organization

For each module, INTERACTION provides goals and objectives, student worksheets containing information and activities, teaching suggestions, and evaluation procedures. For an effective program, the goals and objectives should be followed and the worksheets should be presented in the sequence given. There is, however, much room for flexibility in the curriculum. Teachers can choose the specific context or setting, the particular problems, tasks, and situations, and the teaching method which works best for them and their students.

All modules follow the same general pattern outlined below. Student materials are contained in a series of worksheets (masters are provided for the program; teachers can duplicate the number they need for their students).

Instructions for presenting the worksheets are included, as are additional activities and evaluation forms for the teacher to use. The material is presented in the following sequential phases.

Preparation for Module Phase

This phase is presented in the first student worksheet in each module. Questions guide students in evaluating their personal knowledge of and skills in the INTERACTION area emphasized in that particular module, and in relating them to their daily tasks and activities. This worksheet should be given to students a day or two before beginning the second phase of the module. It can then be used as a pre-test to determine students' interests, attitudes, knowledge, and skills. The information gathered from this first worksheet is used for class discussion later in the module (during the INSTRUCTIONAL PHASE). Specific instructions for conducting that discussion are included in the teacher materials at the appropriate place.

Problem Exposure Phase

Students are then presented with a simulation exercise (in one or two worksheets) in which they are given the opportunity to attempt to apply the INTERACTION skills focus of the module to a life-like problem. However the group activities presented here are so structured that the difficulties and challenges of the INTERACTION process are emphasized. The group is not expected to succeed. After they have completed the simulation, they discuss their experience. The simulation and discussion should help motivate students to develop their knowledge and skills in one INTERACTION area. The purpose of this phase, then, is to allow students to experience for themselves the need for the development of INTERACTION skills.

During this phase, teachers can record their observations and use them as a form of pre-assessment. They can also use their observations to help make the INSTRUCTIONAL PHASE relevant to the unique needs of their students. Teachers are encouraged to use cassette recorders to tape each group's discussion in the PROBLEM EXPOSURE PHASE activity to supplement their own written observations. To assist them in making group observations, they are given a GROUP OBSERVATION FORM which they are to duplicate and use to record their assessment of the group interaction. They are encouraged to be attentive to students' reactions in this phase; many of them find this experience frustrating because it intentionally contains roadblocks to success.

Instructional Phase

The instructional content of the module is contained in a series of student worksheets, supplemented with activities indicated in the teacher materials. Included are information sheets, activity guides, and simulations designed to present students with information and practice in the INTERACTION skills presented in the module. This phase should expand the students' understanding of the particular content and skill area of the module. During this phase, they should develop a broad definition of the term being studied. In some cases, noted in the module, the INSTRUCTIONAL PHASE can be given to students as a total package. It can them be used as a self-pacing independent study. The INSTRUCTIONAL PHASE in other modules should NOT be given as a total package. In either case, specific instructions are presented in the teacher materials for the given module. Also, each worksheet gives instructions for its use and should be checked carefully before distribution. In some cases, the first page should be given separately from the second page. The INSTRUCTIONAL PHASE is concluded by a TEST, always contained in one worksheet titled "What Did You Learn?" This test can be used to determine whether or not students need additional study before going to the final phase of the module.

Application Phase

This phase requires the most expertise on the part of the teacher and depends directly on how well the teacher knows the class. No student worksheets can be prepared in advance for this phase, as the activities contained here are to come directly from the teacher in cooperation with the students in the specific class group. In this way, students can be involved in real-life activities and can test their INTERACTION skills in a way which is believable to them. The final two worksheets in each module present two evaluation forms for students to use when they have completed the APPLICATION PHASE. "How Well Did You Do?" asks students to evaluate their own individual contributions to the group process; "How Well Did the Group Do?" asks them to evaluate the group performance. This final group evaluation should be completed first by each individual alone; and then by the small group as a whole. (The GROUP OBSERVATION FORM can also be used here to measure growth.) Through evaluation experiences such as these, students can develop an awareness of the group INTERACTION process. Thus, the evaluation process itself is as important as the conclusions reached within it.

Evaluation

Evaluation forms guide the teachers in evaluating the program on several levels and in several different ways. First of all, there are the evaluations found within the student worksheets themselves. They consist of:

- PREPARATION FOR MODULE. As mentioned in that phase description, this first worksheet in every module can serve to show what students already know about the INTERACTION skills emphasized in the module, and how they apply these skills in everyday life.

- WHAT DID YOU LEARN? The instructional test at the end of the INSTRUCTIONAL PHASE evaluates what the students have learned about the knowledge and skills of the INTERACTION area emphasized in the module.

- HOW WELL DID YOU DO? The student self-evaluation form focuses on the person's appraisal of his or her own interaction in the group.

- HOW WELL DID THE GROUP DO? The group evaluation form should be given first to individual students to complete privately. Then, one form should be completed by the small group as a whole.

Other evaluation tools provided include a series of forms which the teacher can utilize. Each module has a GROUP OBSERVATION FORM which the teacher can use to observe the small (or total class) groups in action, and evaluate the INTERACTION process of each group. This is hard to do when several groups are in action at the same time, and while the teacher is trying to go from group to group to offer support and direction; however, it can be useful to both the teacher and the group members to have the teacher's observation of the group behavior.

AUDIO-VISUAL taping can also be an effective evaluation tool, and is especially useful for the groups to view themselves; they can often benefit from using the GROUP OBSERVATION FORM while observing themselves on tape. AUDIO alone can also be helpful.

Finally, there are a series of forms for the teacher to use with other adults who work with individual students in various settings where group skills are used. Included are forms to interview PARENTS and EMPLOYERS (which can include anyone in a leadership position such as a church group leader or the leader of a volunteer group in which the student participates). Teachers are encouraged to find one such person for each student; however, they are cautioned to use these forms only if the students are involved in the INTERACTION curriculum over a long period of time, such as a full school year. It is difficult for changes in behavior to be lived out in situations outside the school with less practice time than that. The teacher might want to give these forms both before and after the INTERACTION curriculum is used.

For the teacher's own records, it is suggested that a DAILY LOG be kept. The Log can serve as a record of the relevance and success of various activities, the teacher's appraisal of such activities, and the students' comments and reactions. Such notes can prove useful if the teacher chooses to teach the curriculum again.

Physical Format

Teacher and student materials are bound together in such a way that the student materials can be detached and used as master sheets for duplicating copies. The worksheets contain instructions, activities, questions, simulation instructions, and evaluations for the entire curriculum. The teacher materials give instructions on how to use the worksheets plus directions for additional activities which the teacher might wish to use.

Worksheets are identified with two numbers in the upper left-hand corner. The Roman numeral indicates the module number: e.g. IV = the fourth module, Planning. The Arabic numeral indicates the position of the worksheet within the module; e.g. 4 = the fourth worksheet. Therefore, IV-4 indicates the fourth worksheet in the Planning module.

Procedure

Throughout the materials the term group is used. This term refers to a unit of 4 to 6 students which the teacher should establish at the beginning of the course. Activities and tasks must often be accomplished by these small groups. At times, it is suggested that the teacher do an activity with the total class group. When presenting a new concept, for example, the teacher is encouraged to work with the total class before setting up the small groups. Certain students should be selected as a demonstration group and guided through the activity in front of the entire class. Afterwards, the small groups can use the demonstration to help them do the activity.

During the time that small groups are functioning, it is important for the teacher to circulate around the room, to give support to the groups when they are achieving positive results and to give direction when they are not. Small groups are difficult for students to handle; if it were easy, such a curriculum as this one would not be necessary. The teacher is told not to expect everything to go smoothly throughout the course. Encouragement and support for the progress that students make is important to keep them working at these skills.

When class discussion is called for, there are two options. The teacher can (1) lead the discussion with the entire class participating as a whole and draw upon the experiences of each group. Or, the teacher can (2) divide the discussion time so that first each small group discusses the issue and then each group reports to the total class. In the latter case, the teacher should give the small groups the questions which are given in the teacher materials as guidelines for discussions.

When timing is given throughout the curriculum, it is often estimated rather than precise. In those cases, a group of students may require more or less time to complete that activity. However, there are time limits given for some activities; the teacher is asked to note such time limits and adhere to them. Some activities are not to be completed by the groups and the limits are important restrictions.

The teacher may wish to have the students stay in the same small groups throughout a semester or even the school year. This has one important instructional advantage. Students are presented with the challenge of working with whatever shortcomings and assets the group has. Many times in real-life situations, a person cannot choose to alter the membership of a group regardless of whether the group really "works" or not. However, the teacher may find that requiring students to stay in the same small groups over a long period of time is so deadly that it detracts from the success of the total program. In this case, the teacher is encouraged to change the group and to discuss the changes with the group or with the class as a whole.

Resources

The teacher needs a classroom with flexible seating so that the class can function both as a single large group and in small groups of 4 to 6 students each. Since much time will be spent in the small groups, the teacher should determine some way to get from the large group to the small groups and back again efficiently.

Also, if the classroom must be used by other classes, as is often the case, the teacher is advised to establish early in the course a smooth and definite routine for returning the desks to the format used by the following class.

While these classroom logistics may seem to be unimportant, they can be used as a "group task" on a simple physical level and can often serve to illustrate problems experienced by task-oriented groups. Does someone always arrange his or her desk so that it is not really a part of the group? Does someone always "forget" to return the desk to the end-of-class arrangement? Does the teacher get complaints from other teachers about the way the room is left? The teacher is told not to dwell on logistical problems, but to mention specific instances where improvements might contribute to group performance.

The teacher needs access to a duplicating process for reproducing the student worksheets from the master sheets in the manual. Three holes should be punched in the worksheets so that they can be kept in student notebooks.

In one activity in Module I, the teacher must make two transparencies from a master given in the teacher materials. The teacher needs the equipment to do this, plus an overhead projector to show the transparencies.

In some cases, audio- and video-taping are recommended. While these processes are not absolutely required by the curriculum, students seem to benefit from them, especially in the areas of self- and group-evaluation. The teacher would need video equipment capable of recording and play-back, and the time and space to record each small group individually. For audio-recording, the teacher might be able to record several groups in the same room at the same time, and would thus need several recorders and tapes. While this might seem to be expensive, all tapes can be erased and returned to the school media center at the end of the course.

Students need loose-leaf notebooks in which to keep the worksheets and notes required by the curriculum.

CHAPTER SIX: A DESCRIPTION OF THE INFORMATION COLLECTION MEANS

The following is a description of the general evaluation process and the specific evaluation instruments developed for testing the research curriculum. Included is a description of: the purpose of the evaluation process; the rationale for the levels chosen as the foci of the evaluation; the information to be collected, the persons involved as sources of information as well as those involved in data collection and analysis/interpretation; the data collection procedures and instruments; and lastly, the relevance of the expected success of the test phase to the overall progress of the project.

In the test phase, public high school students, within a variety of educational contexts, including vocational and technical education, were given training in cooperative group interaction skills using the competence-based instructional materials. The specific effects tested in task-oriented groups were: adjustment to the work setting; job satisfaction in the work setting; and effective group task performance and group maintenance in the work setting. (These three effects are defined operationally in Appendix B.) The basic evaluation question was whether or not giving high school students training in cooperative group interaction skills positively affects their knowledge, attitudes, and skills in the three identified areas.

This evaluation had two major purposes: (1) to determine the extent to which the project goals were achieved (summative evaluation), and (2) to determine how the project's products and activities could be made more acceptable and effective (formative evaluation).

The interrelationship of both forms of evaluation are demonstrated in the five evaluation levels namely: (1) the "employment"-community level; (2) the institutional level; (3) the instructional level; (4) the learning experience level; and (5) the "effects of learned skills" or task-oriented group setting level. The information collected on each of these levels answered formative as well as summative evaluative questions.

Each level has a separate set of priorities in regards to the evaluative questions asked. On the employment-community level, we were most concerned with information about user satisfaction and effectiveness; parents and employers were asked for their reaction to the curriculum and their judgment as to its success.

On the institutional level, the priorities included: user satisfaction (level of acceptance), feasibility (the ease with which the curriculum can be installed in the school), effectiveness (observation of effects by administration and staff), and usefulness (the relevance of the curriculum to the school program).

These same four priorities were held for the instructional level, but their order of relative importance was reversed. Here the paramount concern was to evaluate, from the teacher's perspective, the relevance of the curriculum. Next in importance was assessing the effectiveness of the instruction. Feasibility and user satisfaction were judged to be of less importance at this level.

The learning experience level evaluation addressed the questions of effectiveness of learning, usefulness of learning, and user satisfaction with learning all from the student's perspective. Information about the students' growth in knowledge, attitudes, and skills within the classroom setting occupied the interest of the project staff on this level of evaluation.

The last level, the task-oriented (or work) group level, occupied the greatest attention and time of the staff's evaluation effort. It was in collecting, analyzing, and interpreting information about the effects of the learned skills in real life or in simulated work settings that the evaluation process addressed the question of whether the project goals were attained. It was on this level that the most concrete evidence was sought; evidence that training in cooperative group interaction skills could facilitate student growth in the areas of adjustment to task-oriented settings; effectiveness in group performance and group maintenance; and satisfaction and self-development in group functioning, decision making, problem-solving, interpersonal communication, and conflict resolution.

The persons involved in data collection and analysis/interpretation or as sources of information were the participating students, the teachers of the research curriculum, faculty and administrative staff of the school sites, parents, employers, work-student supervisors, and project staff.

Data collection took place before, during, and after the course of the research curriculum. Instruments administered at the beginning of the students' participation in the curriculum included a Student Questionnaire and a Criterion Task form. The Student Questionnaire measured students' knowledge, attitudes, and experience vis-a-vis cooperative group interaction skills. The Criterion Task form was a group task which required verbal interaction. The individual students and the group they participated in were evaluated for behaviors (verbal acts) directly related to the skills taught by the curriculum. The measurement and analysis of interaction rates and quality of interaction provided a measure of the students' expertise in cooperative group interaction skills in a simulated task-oriented group settings. The Criterion Task was videotaped. While it was hoped that this videotape process could be repeated after the pilot test, and the comparison could provide a pre-course versus post-course measure of growth, the videotaping process itself proved unreliable, mostly for physical reasons (i.e., the school's machine did not provide tapes which could be played back on Far West Laboratory's machine; it was difficult to reserve space for the students to do the small group tapings, etc).

For the purpose of description of the pilot test participants, basic background and demographic information was obtained from students and the participating teachers before the beginning of the course by means of two Information Sheets (Student and Teacher).

Various procedures and instruments were utilized throughout the duration of the research curriculum for both formative and summative evaluative purposes. Each teacher kept a Daily Log, a diary which was kept up to date according to prescribed guidelines. Informal discussions, using written sets of questions so as to deal with the prescribed levels of evaluation, were conducted periodically with teachers and administrators.

Built into the research curriculum itself are numerous procedures and measures that provided information to students, teachers, and staff about growth in the knowledge, attitude, and skills areas. Students were required, in each unit of the course, to fill out a pre-module questionnaire and to take an Instructional Test ("What Did You Learn?"). They were also asked to complete, for each module, a Student Self-Evaluation Form ("How Did You Do?") and a Group Evaluation Form ("How Did the Group Do?"). Thus, students had the opportunity to evaluate their own and their peers' learning and behavioral growth as well as to evaluate the effectiveness and usefulness of the curriculum, module by module.

The role of the teacher in the evaluation process was furthered by his or her filling out a Group Observation Form when appropriate during the course of each module. (Recommended times were once after the Problem Exposure

Phase and once after the Application Phase). These forms referred to individual and group behavior that was observable during the group activities. The teacher also filled out an Evaluation of the Module Sheet for each module. This form listed questions regarding specific parts of the particular module (learning outcomes, Problem Exposure Phase, Instructional Phase, and Application Phase) and was completed as the teacher proceeded through the module.

The proliferation of evaluation forms, questionnaires, and instruments appeared to be a burden, but they served as both feedback and reinforcement to student and teacher alike, as well as serving as multiple measures of growth. As a result of the initial pilot-testing phase of the project, these various forms were modified so as to be most useful and workable for all involved.

After the completion of the course, the following instruments were administered to the appropriate audiences with the purpose of collecting data that related directly or indirectly to the summative and formative evaluative processes: an Administration Interview Form, a Parent Interview Form, and a Task Environment Person Interview Form.

A final element in the information collection means was the interaction between the teachers who taught the curriculum and the project personnel. On-site visits were made as often as possible depending on the time and travel involved. The most frequent and regular interaction occured where the project coordinator was an on-site administrator (principal of the high school) and the two CGIS teachers met with him formally every week and discussed the implementation process with him informally as often as needed.

PART THREE: FINDINGS AND RECOMMENDATIONS

Chapter Seven: Characterization of and Reporting on the Pilot Program

Chapter Eight: An Analysis and Interpretation

Chapter Nine: Some Implications of the CGIS Curriculum

Chapter Ten: Recommendations

CHAPTER SEVEN: CHARACTERIZATION OF AND REPORTING ON THE PILOT PROGRAM

In designing the pilot program we wanted to explore the use of the curriculum in three major settings: urban, suburban, and rural. Furthermore, even though the major emphasis was within the context of vocational education, we hoped to explore the notion of fusing the curriculum with other subject matters. We believe that "fusion" is a viable approach to vocational education.

The pilot program was carried out in two phases. During PHASE ONE in the spring semester, 1975, prototype modules were tested in three settings. (1) Berkeley Unified School District, Berkeley, California, (two settings: an office experience class at Berkeley High School, and an office skills program at the Vocational Education Center); (2) Far West School, Oakland, California, (a career education high school operated by Far West Laboratory for the Oakland Public Schools under NIE's Experience-Based Career Education Program); and (3) Mesa Verde High School, Citrus Heights, California, (business management class).

PHASE TWO involved extended pilot testing throughout the school year of 1975-76. During the fall semester, the materials were tested with a second business management class at Mesa Verde High School in Citrus Heights, California. During the spring semester, the materials were tested in the following settings: (1) Mt. Diablo High School, Concord, California, (a leadership class for student body officers); (2) Prospect High School, Campbell, California, (a sales class) and (3) Neah-Kah-Nie High School in Rockaway, Oregon, (an alternative education class for educationally disadvantaged students and a U.S. History class). Testing at Neah-Kah-Nie High School explored the widening of the scope of the application of the program.

Participating teachers agreed to the following stipulations: *1. To use in the classroom a minimum of five and, if possible, eight of the CGIS modules; **2. To provide descriptions of situations relevant to their students' activities to enable Far West Laboratory staff members to adapt situations in the materials; 3. To provide for duplication of materials actually used in the classroom; 4. To keep a Daily Log of the class progress in the CGIS curriculum; 5. To participate in conferences with Far West Laboratory staff regarding the curriculum; 6. To administer evaluations specified by Far West Laboratory; 7. To facilitate the interaction with administrators, parents, and task-environment persons; and, 8. To provide detailed evaluation of the curriculum, including specific suggestions for revision, as well as comments on positive aspects of the materials.

Far West Laboratory agreed to the following stipulations: **1. To provide the CGIS basic curriculum, revised to include situations relevant to the specific sites. 2. Provide evaluation descriptions and instruments where appropriate; 3. To conduct on-site visitation as agreed upon by the teacher and the Far West Laboratory staff; 4. To be available for conferences with the teacher regarding implementation of the curriculum; 5. To provide the teacher with conclusions reached by Far West Laboratory regarding the CGIS curriculum; and 6. Furnish the teacher with a copy of the revised curriculum.

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*For the pilot test program it soon became obvious that the time required for each module would make it impossible to complete much more than four modules during one semester. (Three sites completed five modules, the rest completed four). All teachers agreed that the total CGIS program of eight modules would require a full year of study.

**Neah-Kah-Nie teachers revised the materials themselves, under the direction of the on-site coordinator, Don Langan.

The following discussion of the pilot test program presents an overview of each phase and relevant information concerning each test site, including:

1. a description of the school indicating special characteristics of its program or student population;
2. an introduction to the teacher;
3. a description of the class indicating special characteristics of the class purpose, structure, content, or instructional process;
4. information on the students in the class;
5. the CGIS modules completed by the class; and,
6. site-relevant information on the conduct of the pilot test program.

The final section of the chapter describes in detail the conduct of the pilot program at Neah-Kah-Nie High School in Oregon where the on-site coordinator interacted on a daily basis with the cooperating teachers to adapt the curriculum materials to their particular class contexts.

PHASE ONE

The emphasis in phase one was on the Mesa Verde program. Mesa Verde is an innovative year-round high school located in Citrus Heights, a suburb of Sacramento, California. Emphasis at the school is on providing career guidance for each student. The school's educational program is organized into content areas called "clusters," which focus on general career areas. All students specify a career interest and are then enrolled in the relevant career cluster. The business management class is part of the Vocational-Technical Cluster. The fifteen students enrolled in this class were sophomores.

The business management course content was primarily the prototype modules of the CGIS curriculum. They completed the following four modules: Group Communication, Conflict Resolution, Planning, Evaluation.

The Group Communication module was pre-pilot tested with a CETA class of fifteen students in Berkeley, California. Selected activities from three modules--Communication, Resources of the Group, and Conflict Resolution--were also pre-pilot tested with one group of four students at Far West Laboratory's experience based career education school in Oakland, California.

The object of the first phase of the pilot program was to obtain student and teacher reactions to specific activities and to the modules as units The information collected was used for extensive revision and further development of the student and teacher materials.

Module titles used to indicate prototype and pilot test versions for the modules will vary slightly from those found in the Research Curriculum, INTERACTION. Title changes are minor, however; (e.g., the research curriculum uses "Communicating" instead of "Group Communication") and modules can be identified by key words or ideas, such as "communicate".

PHASE TWO

All potential sites for the extensive pilot test were contacted either during the summer of 1975 (Mesa Verde for the fall semester) or during the fall semester of 1975. Teachers and administrators who were interested in participating in the pilot test met with project staff to discuss implementation. In each case, project staff discussed the student materials with the understanding that individual student worksheets could include site-specific material where relevant and where considered necessary by the site personnel. Prospect High School's teacher did not consider such revision necessary and used the materials written for Mesa Verde. Mt. Diablo selected some worksheets for revision to deal with specific problems which would be encountered by the Leadership Class. Neah-Kah-Nie teachers elected to adapt the materials themselves. The original materials were set up to be specific to Mesa Verde.

This second phase of the pilot program began in the fall of 1975, at which time the full set of eight modules (site-specific to Mesa Verde) had been developed. This phase was completed in June, 1976.

Mesa Verde High School, Citrus Heights, California, Business Management Class

At Mesa Verde, a new group of students enrolled in the business management class were involved in this test. The class was taught by Lynda Veatch who was the Cluster Leader of the Vocational-Technical Cluster. As Cluster Leader of the Vocational-Technical Cluster, Ms. Veatch served as administrator and counselor for the cluster, as well as a teacher of classes within the cluster program.

Students enrolled in the class were randomly selected and did not know that the class would be testing the CGIS curriculum. There was no specified course of study for the course; instead, it functioned as an opportunity for students to explore the business management career area.

Sessions at Mesa Verde are nine weeks long, with three-week intervals between sessions. The business management class met five days a week in a double class period of approximately an hour and fifty minutes. The class was conducted for an entire year, although all students were not enrolled in it for that total time.

The CGIS curriculum was taught during the first semester only (September, 1975-January, 1976). The initial plan was for the class to test the full eight modules in the approximately 70 days available to them in the 85-to-90-day semester. However, it was found that the student materials required much more time than had been anticipated. Rather than skim through all eight modules, it was decided to complete five modules thoroughly. The first five modules (as follows) were completed: I - Group Communication; II - Resources of the Group; III - Conflict Resolution; IV - Planning; and V - Evaluation.

During that first semester, the class also organized a student loan company using as their initial capital money authorized for that purpose by the school. In order to set up the loan company and to conduct business throughout the year, students were required to handle all of the necessary tasks. This included designing forms (such as notices to students regarding their qualifications for loans, reminders of overdue payments, etc.), composing letters and publicity notices, evaluating qualifications of loan applicants, managing accounts, and developing company procedures.

Members of the class were also organized into management teams to assess other student groups within the total school setting. (As part of the career emphasis of Mesa Verde, numerous enterprises are completely operated by the students themselves. These enterprises include many operations, such as the food service, which are traditionally handled by adults.) The Management class teams conducted evaluations of the food service and other student enterprises, such as the school store.

Neah-Kah-Nie High School, Rockaway, Oregon, U.S. History and Alternative Education

Neah-Kah-Nie High School serves the coastal communital of Rockaway (810 residents) and surrounding area. Of the 313 students in the school, the majority are children of loggers or fishermen. Principal Don Langan, who also served as the on-site coordinator for the CGIS pilot program, estimated that some 30 percent of the student population is on welfare, and that 49 percent would qualify, under federal regulations, as educationally disadvantaged students.

The school is traditionally organized, both physically and in terms of curriculum. However, some innovation has been introduced into the curriculum, primarily due to the efforts of Principal Langan. One example of that innovation is the testing of this CGIS curriculum. Another is the creation of the Alternative Education class described below, which also served as one CGIS pilot test class.

It was originally intended that the CGIS curriculum be tested in a third class at Neah-Kah-Nie, a woodshop class. However, this plan was abandoned for several reasons:

1. Several students involved in the CGIS curriculum in U.S. History were also in this woodshop class and their experiences were duplicated.
2. The work demands of the course itself were such that there was no time for an additional curriculum, especially in view of the fact that CGIS seemed to require a great deal of time.
3. The students in the class were homogeneous in terms of both abilities and interests, and already worked together as a group quite effectively.

Alternative Education Class. The design for this class was developed in the fall of 1975 in response to the need for assistance to ninth grade students who were failing three or more courses (out of a possible seven) during the first semester. The class, which began in January of 1976, was composed of fourteen freshmen students, both boys and girls. It was a self-contained class in which all basic ninth-grade courses of study, except physical education, were taught by one instructor. These courses were: English, geography, world history, health education, science, and mathematics. Students left the classroom for physical education. The class was intended to provide a more individualized program to meet students' needs.

Although the students were identified as "educationally disadvantaged," none could be classified as "special education" students, educable mentally retarded, etc. These students were from the lower 50% of the community's socio-economic groups.

Students were in the class on a prescriptive/recommendation basis. They were selected in December, 1975 on the basis of their semester performances in the regular 9th grade curriculum. Those who demonstrated severe performance difficulties were scheduled into the Alternative Curriculum in January, 1976. Parents were informed of the plan, and none objected to having their child involved in this program. Of the fourteen students, all but two managed to complete necessary course requirements to enter the sophomore class in

September, 1976.

This was the first year of teaching for the instructor, Mr. Stan Arthur. He was 23 years old with a degree in Environmental Science. As a former graduate of the high school, he knew many of the students and their families. Based upon three formal observations, the instructor met the prescribed teaching competencies of the district.

The classroom was a traditional 900-square-foot facility, with no unique characteristics.

Twelve students responded to a survey of student information. Of the twelve, four were female, and eight male. All were Caucasion. Two were fourteen years old, eight were fifteen years old and two were sixteen years old. Ten were born in Oregon, one in Arizona, and one in Washington. Three described previous residences as cities, eight as towns, and one gave no answer. Four students said they had no work experience; others listed house, farm, and garden work. None had taken courses in group work training. Four had been involved in experimental programs within the school (one in "mini-classes" and three in SUTOE - Self-Understanding Through Occupational Exploration). When asked to list best friends in the class, three students said they had none, but nine listed three or more. When asked whom they would like to get to know better, four said none and only three listed four or more. There were two who did not respond, but almost everybody felt that they knew the other students in the class. Only one person had career plans which included college.

The class completed the following CGIS modules: I - Group Communication; II - Resources of the Group; III - Conflict Resolution; IV - Planning; and VIII - Cooperative Effort. The CGIS curriculum was implemented during the spring semester (March - June, 1976).

U.S. History. This class of twenty-six students contained juniors and seniors and included both boys and girls. The class was text-oriented and followed the prescriptions of chapter-by-chapter presentation by the instructor, Mr. Bill Smethurst. The lecture method was extensively employed. Students meet the prescribed minimum requirements as these are dictated by the district Planned Course Statement for the class. The prerequisite for the class, which is required for graduation, is only that a student be at least a junior.

There are four sections of U.S. History in the school, only one of which was involved with the CGIS program. Students in the class are heterogeneous in both ability and interest due to the requirement nature of the class and the absence of "ability grouping" for the several sections.

This was the instructor's first year of class experience. He was 23 years old, with a background in sociology and general social studies. He had demonstrated satisfactory teaching skills as prescribed by the district. He was active in the athletic program of the school as assistant football and head wrestling coach.

The classroom is a typical 900 square feet room, with 30 desks, wall maps, etc. This particular class met five days a week for forty-minute class periods immediately preceding lunch.

Of the fifteen students who completed the Student Information Sheet, six were female and nine were male. All listed themselves as "white." Seven were sixteen years old, six were seventeen, and two were eighteen. Although sophomores are theoretically not allowed in the course, one student indicated being in the tenth grade; eleven were in the eleventh grade and three were in the twelfth grade. Thirteen were born on the west coast (Alaska, Vancouver, Oregon, Washington); one was from New York state and one from South

Dakota. Before living in the Rockaway area, seven had lived in urban areas, five in suburban and three gave no answer. All but one of the students had some previous work experience, the majority in food service and gas stations. None had taken any courses in group work; only one reported participating in any experimental program at school before. Each student felt that he/she had at least one best friend in the class. The majority felt they knew everyone in the class well, but one student knew "none." Career plans included college (eight students), race car driving (one), and travel (one); the rest were undecided.

This U.S. History class pilot tested the following CGIS modules: I - Group Communication; II - Resources of the Group; III - Conflict Resolution; VI - Leadership and Power; and VII - Decision Making. The CGIS curriculum was implemented during the spring semester (March - June) 1976.

Mt. Diablo High School, Concord, California, Leadership Class

This high school is located in a large suburban valley about 35 miles from San Francisco. Mt. Diablo is the oldest high school in the area, having originally served a scattered rural population when it was built in 1903. Currently, it serves the original town area of Concord containing some families which have long been established there. However, it also includes students from the new and rapidly growing suburban population, although it does not generally include the most affluent members of that group.

The Leadership Class is comprised of elected student body officers and is designed to provide time for them to carry out the duties of their respective offices. The sixteen members of the class are responsible for planning and carrying out student body activities, programs, and projects. Consequently, the "content" of the class was practical in orientation and frequently required the students to be out of the classroom. The group met regularly during the class period with the school principal and administrators to discuss school problems and plans.

The teacher of the class, Ms. Kathryn Setencich, was a member of the English department staff and was working for her administrator's credential. She had taught the Leadership Class the previous year and had expressed interest in using the CGIS curriculum as a way of assisting the students in improving group communication, planning procedures, and coordination.

Ms. Setencich described the students as follows:

"These students this year, with only one or two exceptions, are the leaders in their classes both socially and intellectually. While they come from middle and lower-middle class homes, many will attend four year colleges; one will attend Stanford, five or six will attend state universities, and several others will attend junior colleges. Twelve of the sixteen are seniors. Several students, while their grades are not outstanding, are still social leaders of various groups within the school. Basically they are as academically oriented as any group we've had in many years. I would describe them as very individualistic."

All sixteen students responded to the Student Information Sheet. Seven were male and nine female. Eleven were Caucasian, two were Chinese, (three did not answer the question). The age range included two who were fifteen years old, one who was sixteen, eight who were seventeen, and five who were eighteen. Twelve of the students were twelfth graders, one was in eleventh grade, and three were in tenth grade. Most of the students (ten) were born in the Bay Area. Two were from San Diego, California, one from Wisconsin, one from Minnesota, and one from Hong Kong and one from Taipei. Five considered previous homes to have been urban, nine suburban, and two rural. Every student had some work experience, most in the fields of food service and recreation. Fourteen of the students had not participated in any experimental school programs in the last two years but one reported involvement with "Project Community," (an experiment in group work), and another with Career Exploration (through a public speaking class). Two students had taken courses in group work; fifteen listed college (or a career, such as doctor, which requires college) as their career plan. One wanted to become a Marine. Every student felt he/she knew at least one other person in the group; two said they "knew everybody."

The Leadership Class field tested the following CGIS modules: I - Group Communication; III - Conflict Resolution; IV - Planning; and VIII - Cooperative Effort.

Prospect High School, Campbell, California, Sales Class

The Sales Class at Prospect High School was taught by an experienced teacher, Ms. Barbara Gerould, who was also responsible for the School Bank. Students enrolled in the class were interested in obtaining sales instruction and experience, and indicated an interest in learning the practical skills which the course had to offer. Many of the students participate in work experience programs in the school cafeteria.

Ms. Gerould's approach to the course content and to the students is flexible and open and she was enthusiastic about testing the CGIS curriculum.

The class met five days a week for 48-minute periods, during one lunch hour so that students could be involved in their cafeteria work. Students in the class were described as being at various ability levels.

Nineteen students completed the Student Information Sheet. Of that number, seventeen were female and two male. Ten students were sixteen years of age, seven were seventeen, and two were eighteen. Fourteen of the students were in eleventh grade and five were in the twelfth grade. Eight were born in San Jose; three in other areas of California; and eight in other states.

Fifteen students indicated that they had lived in suburban areas before attending Prospect, four in urban areas, and none in rural areas. All but one had work experience with the highest number having worked as a salesperson or a cashier. None had participated in any experimental school programs in the last two years. Five commented that they had taken courses in group work before, and mentioned group counseling, psychology, and a "youth and society" program which was not further described. Their career plans include college for two of them, becoming a stewardess for two, "don't know" for three, and various other fields for other individuals. Every student knew at least one other person in the group, with fourteen knowing all the persons in the group.

A Special Overview of the Neah-Kah-Nie Program

At Neah-Kah-Nie High School, the presence of an on-site project coordinator who was also principal of the school and experienced in educational research allowed for 1) a high degree of interaction between the project staff and the cooperating teachers and students, and 2) a thorough and complete reporting of the project information. Because of this, and because the Neah-Kah-Nie program placed special emphasis on CGIS as a methodology rather than only as a separate curriculum domain, it is discussed here in detail - including project purposes, procedures, assumptions, populations, and implementation.

Purposes

CGIS was designed as a curriculum to provide learners with essential interactant skills, primarily through the use of communication strategies of discussion, inquiry, and evaluative procedures as these are operationalized within the group. As such, CGIS was to serve as a substantive domain as well as a methodology for instruction and learning, e.g., to teach discussion the child will discuss, to teach swimming the child will swim. In a very real sense, CGIS as designed is a case of process/product identity.

CGIS was designed to serve as a process in the Neah-Kah-Nie contexts of U.S. History and Alternative Education classes. It was interpreted to prescribe a learning mode for students.

The purpose of the pilot test was to test in a preliminary fashion the following substantive hypotheses:

H_1 Students will process (receive, analyze, evaluate, output) greater amounts of context relevant information (cri) through CGIS than would be the case with the uni-directional one-to-many information flow characteristic of the lecture-listen method for teaching and learning.

H_2 Students will process cri of higher abstractions than would be the case with traditional information flow methods.

H_3 Students will generate more ancillary and support information related to current information pools through CGIS than would be the case with traditional information flow methods.

H_4 Students will develop evaluative strategies which will aid them in processing post-task information.

H_5 Students will develop individual and group perceptions more congruent with operational task group expectations than would be the case with traditional information flow methods.

The 8 modules in CGIS were employed as a teacher/learner methodology in the following subject matter domains:

Health Education: grade 9 (Alternative Education class)
Geography: grade 9 (Alternative Education class)
United States History: grade 11 (U.S. History class)

The five hypotheses above (H_1-H_5) were evaluated in these domains.

Procedures

The instructors at Neah-Kah-Nie High School were contacted in December, 1975 to determine their willingness to involve their classes in a CGIS field study. The study would run from March-June of 1976. The instructors volunteered their services to the project.

Materials were secured from Far West Laboratory. Materials were given to the instructors in the form of individual sets of CGIS Modules in a single large three-ring binder. The instructors were asked to review the modules prior to meeting with the project coordinator.

The on-site coordinator met with the instructors formally the first week in February, 1976. Three meetings were set up through February to discuss the modules, the instructors' roles, the evaluation routines, and student expectations. Approximately seven hours were spent on this orientation.

The instructors' responsibilities were as follows:

> Develop context relevant task (crt) for the modules to replace tasks designed for the Mesa Verde Vocational Education program.
>
> Develop crts's for modules that contained only CGIS substantive material.
>
> Maintain a daily log of class activities.
>
> Produce a project summary statement following the final module.
>
> Meet weekly with the project coordinator following last class of the day to discuss progress and problems.

Student responsibilities were prescribed by CGIS materials. No formal description of the CGIS project was given students at this time. They were informated that Neah-Kah-Nie had offered to test a particular product designed to improve learning in the classroom, and that they were part of an experimental project.

The on-site coordinator's responsibilities were to maintain liaison with Far West Laboratory regarding the project, to insure materials for the instructors, and to aid in evaluating project results, module by module, and as a total package.

The first module was begun March 15, 1976. The classes began at the same time. In order to manage the project it was determined that, as closely as possible, the classes involved would maintain the same time frame for each module. A time frame for each module was established at the weekly meetings between the project coordinator and the instructors.

It was determined that the end date would be May 27, 1976.

Project Populations

This project was designed to pilot test several hypotheses related to instructional strategies and learner outcomes. The class settings selected to serve as test situations represented diverse subject matter and student populations.

Employing a single instructional strategy for diverse groups, both in subject matter domains, as well as in student makeup, would hopefully better meet their needs, and give the strategy an opportunity to demonstrate strengths and weaknesses based upon the outputs of the test groups.

Project Asumptions

The following assumptions were taken as given conditions:

1. Learning is essentially that activity wherein information obtained from the environment is received, processed, and emitted in a transformed state.
2. Information, the substance of learning, is extremely variable both in origin and in abstraction.
3. Processing and thus transforming information received are the critical components of any learning system.
4. Reception and emission of information is most easily obtained, and forms the bulk of many learners' school experience, with relatively little emphasis upon processing and transforming.
5. The ability of the learner to establish functional interfaces between himself and his environment is directly contingent upon information available to him from the environment.
6. A learner's adaptability to several environments is directly contingent upon his ability to receive, process, and transform information available to him from these several environments.
7. The most critical informational system external to the learner is other people, other learners.

The cliche that students learn better from students than from teachers, or that "kids learn more from other kids than from their parents," becomes a working construct in this project. It is assumed that students can help themselves and others learn history, health, and geography. The CGIS modules with their emphasis upon group interaction and group communication have apparent relevance toward testing several of the assumptions.

Project Implementation

The cooperating instructors were given brief inservice explanations of CGIS and their roles in implementing this strategy within their classrooms. They were asked to determine the following conditions:

1. Was there an observable increase in the ability of students to process course information relevant to the particular class?
2. Was there an observable change in student attitudes toward
   (a) the course information and tasks;
   (b) themselves as a member of the class as a whole;
   (c) others as members of the class as a whole;
   (d) the instructor; and,
   (e) their individual successes and failures in the class?

Instructor observation sheets were used to determine #2. Student performances on tests and other required course tasks were used to determine #1.

The U.S. History class, being one of four sections, allowed for direct comparison of student achievement in the CGIS class to other classes. History topics were selected. The CGIS class worked with these topics employing the strategies of the various modules. The regular classes worked on the topics in a lecture/listen setting. A comparison of the two groups, thus, would allow some inference to be made regarding the success of CGIS in raising student achievement in traditional subject matter areas.

The Alternative Education class worked with all subject matter areas common to the ninth grade. A comparison was made between the Alternative Education class achievement in ninth grade English and the achievement of other ninth graders in the regular English program. This comparison was made over identical subject matter areas, specifically English grammar.

The criterion measure was to be whether or not students in this course performed this task with greater efficiency and quality of product than would have been the case if they had not received group interaction skills training via CGIS.

CHAPTER EIGHT: AN ANALYSIS AND INTERPRETATION

The instruments used to collect data from the project sites have been described in Chapter Six. An enormous amount of data was collected, much of which was formative in nature and guided the extensive revision of the student and teacher materials.

For the purposes of the summation of pilot program findings, several instruments emerged as the most significant sources of information; i.e., they were the most complete in terms of the number of students who responded to them, and the most useful in terms of the questions asked. They were:

1. those instruments, such as the Teacher's Daily Log, which contained written comments on the curriculum, the daily progress, and the student performance;
2. all interview information, recorded on Interview Forms or in interviewer's notes, with teachers, administrators, parents, and employers or other supervisors of task-oriented student groups/activities; and,
3. the Student Self-Evaluation (SSE) Form completed by the students, and the Observation of Group Checklist (OGC) completed by the teacher. These forms required students and teachers to observe and evaluate individual and group performance during the Application Phase.

Effect of Learning on Task Performance; Application Phase

The evaluation of the effect of learning on task performance shows some conclusions which can be generalized to the six classes involved. For the purpose of this evaluation, two items presented in the Student Self-Evaluation (SSE) Form for each module were analyzed and summarized. These two items asked each student to assess his/her own and each other's abilities to apply the specific cooperative group interaction skills presented in the given module.

The student's assessment was conducted after having participated in a group task (during the Application Phase of the module) wherein these specific skills could be demonstrated by the group members. The SSE forms were completed during or after the Application Phase of each module; i.e., after the Instructional Phase was completed. Students were required to apply the skills they had studied in that phase to some task relevant to their group.

Appendix C contains the charts which display these two items for each module site-by-site. Each chart displays one item from one module from one site. For example, the first chart displays Module I (Communication) from the Management Class taught by Sam Cimino at Mesa Verde High School, the first item from the module's SSE: each student's evaluation of his/her ability to apply the cooperative group interaction skills presented in the communications module. The second chart displays the same module, class, teacher, and school but deals with the second item: each student's evaluation of other group member's abilities to apply those same skills. The total number of responses on this second chart in each module varies depending on (a) the number of students completing the item, (b) the number of students in the group, and (c) whether or not each student completed the evaluation for each other group member.

Students were asked to respond to four evaluation choices: Very Good, Good, Poor, and Very Poor. (In the pre-pilot with Cimino's class at Mesa Verde, Adequate and Inadequate were used in place of Good and Poor respectively.) For the purpose of assessing student responses, these four choices were weighted: Very Good = 4; Good = 3; Poor = 2; and Very Poor = 1. The weighted average was then computed for each skill evaluated under the particular item. Finally, the Overall Average was computed for the cluster of skills grouped in each module; i.e., a Module Average was computed.

The following summary of the charts includes Overall Averages for each module on the students' self-evaluation and on their evaluations of each other.

SUMMARY OF STUDENT EVALUATION ITEMS

(4 = Very Good; 3 = Good; 2 = Poor; 1 = Very Poor)
(N = Number of respondants)

MODULE/SITE		EVALUATION OVERALL AVERAGES			
		N	SELF	N	GROUP
MESA VERDE - CIMINO (4 modules)					
I.	Communication	14	3.0	14	3.1
III.	Conflict Resolution	10	3.3	10	3.4
IV.	Planning	12	3.1	12	3.4
V.	Evaluation	13	3.4	13	3.5
MESA VERDE - VEATCH (5 modules)					
I.	Communication	14	2.9	14	3.0
II.	Resources of the Group	9	3.1	8	3.1
III.	Conflict Resolution	9	3.1	8	3.3
IV.	Planning	8	3.2	8	3.2
V.	Evaluation	8	3.1	8	3.0
NEAH-KAH-NIE - ARTHUR (5 modules)					
I.	Communication	11	2.9	11	2.5
II.	Resources of the Group	11	2.7	11	2.7
III.	Conflict Resolution	12	2.9	12	2.6
IV.	Planning	13	2.7	13	2.6
V.	Decision Making	8	2.7	8	2.6

(continued)

SUMMARY OF STUDENT EVALUATION ITEMS (cont.)

(4 = Very Good; 3 = Good; 2 = Poor; 1 = Very Poor)
(N = Number of respondants)

MODULE/SITE		EVALUATION OVERALL AVERAGES			
		N	SELF	N	GROUP
NEAH-KAH-NIE - SMETHURST (5 modules)					
I.	Communication	19	2.8	19	2.8
II.	Resources of the Group	20	3.0	20	2.8
III.	Conflict Resolution	18	2.9	18	3.0
VI.	Leadership and Power	8	3.0	8	2.7
VII.	Decision Making	15	3.0	15	3.1
PROSPECT - GEROULD (4 modules)					
I.	Communication	14	3.1	14	2.9
II.	Resources of the Group	11	3.1	11	3.3
IV.	Planning	9	2.9	9	2.9
VI.	Leadership and Power	3	3.0	(no scores)	
MT. DIABLO - SETENCICH (4 modules)					
I.	Communication	11	3.4	11	3.0
III.	Conflict Resolution	(no scores)		(no scores)	
IV.	Planning	11	3.4	11	3.3
VIII.	Cooperative Effort	6	3.0	6	3.2

It can be seen that ratings averaged across individuals show little variability from module to module or site to site, although the ratings from the two Neah-Kah-Nie classes seem to be consistently, although not greatly, lower than those from the other two schools. Most of the average ratings are approximately 3.0 indicating that (on the average) people who completed the cooperative group interaction skills modules felt that they had a "good" ability to apply the skills presented in those modules. This is very encouraging, although we will also refer to teacher observations and anecdotes, reported in this chapter, for support of the assumptions that 1) these ratings by students have some validity as indicators of actual ability to apply these skills; and, 2) the competence and feelings of competence in applying these skills were enhanced by the cooperative group interaction skills curriculum.

Although there are few differences evident in the summary table between self-ratings and ratings of peers averaged across individuals, the charts in Appendix C showing tabulations of the actual ratings reveal some interesting differences obscured by weighting and averaging. For several of the sites (especially Mesa Verde, Cimino) the ratings of others have considerably more variability than do the ratings of self: while most people rate themselves as "good", their ratings of others in the group cover the full range from "very poor" to "very good", with most ratings being "very good" or "good".

This suggests, even more strongly than do the average ratings, that most group members are perceived by their peers as having "good" to "very good" (the top of the rating scale) ability at applying the CGIS skills, though a few people are perceived to have acquired little or no such ability.

For those interested in the ratings of ability to apply the specific skills within each module, ratings of the tabulations of ratings in Appendix C might prove interesting because the distributions of ratings differ greatly for different skills, though the averages show little discrimination between those skills. This variability in distributions between skills lends evidence to the validity of these ratings, for it indicates that students did not rate randomly or uniformly.

Other indications of successful student performance in task-oriented groups will be presented in the following site-by-site discussion of pilot test results. For the most part, formative data which was useful in revising the research curriculum is summarized in the Revision section of Chapter Five. Consequently, the three initial pilot sites (Cimino at Mesa Verde, CETA at Berkeley, and students at Far West School in Oakland) will not be discussed here. However, it should be noted that Mr. Cimino reported that he used the CGIS materials in his freshman and sophomore English classes during the 1975-76 school year, and that he intends to continue using the materials during the coming school year. Other teachers' plans to continue using the materials will be discussed in the site-by-site presentation which follows.

The discussion of the individual site findings includes: the effect of learning on task performance as demonstrated in the Application Phase and the Follow-Up Observation; student performance and attitudes; teacher performance and attitudes; and an interpretative summary of site findings.

MESA VERDE - MANAGEMENT CLASS - VEATCH

Effect of Learning on Task Performance; Application Phase and Follow-Up Observation

In a follow-up interview with Lynda Veatch in June, 1976 (one semester after the Management Class had completed the CGIS curriculum), she reported that the class had stayed together as planned for the entire year, and had continued second semester to run the Student Loan Company which they had organized during the first semester. Because of this continuity of class and task, and because CGIS was taught during the fall semester, this site provided the most opportunity for follow-up observation.

Ms. Veatch reported that the class "really used a lot of the information and skills which they learned in CGIS last semester." She discussed the accomplishments of the class positively, whereas at the beginning of the year she had found them to be a very quiet, non-productive group which had resisted doing almost anything she or anyone else suggested. At that time, they had seldom participated in projects and, when they did, seemed less than enthusiastic about either the activity or the results.

During the first semester, as an on-going "Application Phase" of the CGIS curriculum, the students conducted a very successful group activity which called for interaction on their part with student programs conducted throughout the school. Mesa Verde's career-centered curriculum includes the provision that many of the school enterprises traditionally run by adults are operated as student businesses. It was the job of the Management Class, organized into management teams, to evaluate such student enterprises as the school food service and the student store. Ms. Veatch judged the resulting team evaluations to be excellent and indicated a favorable reaction to the way in which they class conducted them. Such results as an improvement of the food service gave some indication as to the success of the evaluation activity.

By the end of the second semester, the class had made significant progress and seemed quite proud of their accomplishments. As organizers and managers of the Student Loan Company, they had:

1. successfully organized and presented a slide-tape presentation to inform other teachers and students of the activities of their class (especially with regard to the Loan Company);
2. successfully administered over $8,000 in loans to students;
3. handled all of the procedures necessary to keep the Loan Company operating (monthly statements, letters to applicants, etc.);
4. organized several field trips;

5. made presentations related to the Loan Company operations to Mesa Verde's Board of Managers (composed of the students who oversee the various student enterprises at the school); and,

6. made similar presentations to adult administrators at the school.

Ms. Veatch felt that, in all these activities, the students applied "all the skills we've studied in CGIS."

In a poll of the students, they expressed an appreciation of the value of the CGIS skills in the job of creating and running their Loan Company. They made such statements as: "We have had to have a lot of cooperation. Without it I don't think the Loan Company would have gotten where it is now"; "We have evaluated ourselves as we go along - keeping some things and throwing out others"; "I had to make decisions concerning the loans. My decision as credit investigator also affects the outcome of the final decision"; "We used a lot of planning in establishing the Loan Company"; "I've learned a lot of planning and how to organize things"; and "I have learned a lot this year. I didn't enjoy it all, I admit, but I learned very much." The overall reaction of the students to their achievements in this class was very positive.

Student Performance and Attitude

Items from various student and teacher materials show that students seemed to gain from the CGIS curriculum. Students who, in the first module, almost unanimously failed to cooperate, pay attention, or stay on the subject were, as they went along, increasingly willing to work in a group toward one or another common goal. More of the shy students began to participate and some of the loud ones began to settle down. "Everyone participated" and "worked smoothly and focused on the task" became much more frequent comments as one advanced through the modules. Students seemed to respond best when each was individually responsible for a particular sub-task within a group project.

Continuing problems which didn't seem to be completely overcome were a tendency to get off the subject and a tendency for the group to divide into (a) people who did all the talking, (b) people who did all the work, and (c) people who said and did nothing.

The program seems to have a positive effect on the behavior of students in groups, especially with regard to listening to and considering one another's ideas, participating, and working for a common goal.

Some examples of improved performance or attitude as observed by the teacher and recorded on the Observation of Group Checklist or indicated by student responses, include the following conclusions (which sometimes refer to more than one small group):

Resources Module

1. Students have learned to identify all possible resources, consider time a resource, and assess probability that they can complete a task. Group made good solution to Application Phase problem.
2. Group had no dominant members in Application Phase task. Went from competitiveness to getting along smoothly. Went from inadequate task solution in first phase to adequate solution in second.
3. Individual contributions: Most students stayed about the same in strengths and weaknesses. One passive girl learned to apply her own resources better. A boy who was "easily put down" in the Problem Exposure Phase took responsibility for a task in the Application Phase. A "follower" remained so but showed some action. A non-participator in the first task took active responsibility in the second, including contacting teachers. A "good organizer" became group leader in the second phase, replacing a student who was verbal but disruptive (who had been leader in the first phase).

Conflict Resolution Module

1. Group has learned to: analyze task, gather all information, identify resources and obstacles, consider alternatives, listen to alternatives, establish criteria for selecting alternatives, choose plan related to criteria, agree at least partly on decision, write plan down, and evaluate planning process.
2. Went from one dominant member and four silent ones to all contributing; from great competitiveness to minor conflict. Task accomplishment went from very poor to very good.
3. All students seem to have improved immensely--from quiet and/or hostile at the beginning to planning well, taking responsibility, arranging successful field trip at end.

Planning Module

1. Students have gotten better at: analyzing task, gathering information about task, evaluating planning process. Students have learned to choose plan related to criteria.
2. Much less tendency to have single members dominate group in second phase. Everybody's ideas were considered in both phases. Group got along very well in both phases. Task accomplishment went from adequate to very good.
3. Three members understood material well. Three shy students participated more in second phase; one is good evaluator, two followed-through on a task. Student with "mouth" was less agressive than formerly.

Evaluation Module

1. Students improved ability to determine what should have happened, have gained ability to consider what did happen, consider differences between what should have happened and what did happen, and consider reasons for the similarities and differences.

2. Group worked together better and with less friction on second task. No dominant people in group at either time; some students who didn't say much in both cases. Went from inadequate to very good accomplishment of task.

3. One student went from poor to good comprehension of evaluating. Several of the shy students became better at summarizing etc., contributed more the second time.

Student attitudes toward the CGIS curriculum indicated that they felt that they were learning from the materials, but did resist doing the written work. They said that, for one things, they did not like to "think" as much as the modules required them to do.

Students especially seemed to enjoy and profit from the brainstorming activities and activities which had a game structure. There were mixed feelings about the simulations which required them to role-play. Some of the roles (especially adult roles) were difficult for the students to comprehend or identify with. The preferred "real-life problems" to work with, such as organizing the field trip they actually went on, a problem they faced at school, etc.

They seemed to have difficulty understanding some of the activities, and were bothered by repetition, especially of questions on the pilot test evaluation forms. Their responses to the curriculum were helpful in the revision of the student and teacher materials.

Teacher Performance and Attitude

Because of the demands for thinking and interaction placed upon the students by the curriculum, Ms. Veatch found it necessary to include other material in the course during the fall semester. She indicated that the content of the materials requires a full year for adequate presentation, partly because students find constant attention to the group process difficult to sustain.

She was consistently supportive of the pilot test program. She reported in June of 1976 that, as a result of the use of the materials by Mr. Cimino and herself, other teachers have utilized strategies from the CGIS materials in U.S. History, English, social studies, home economics, and the management of the student store. Ms. Veatch plans to use CGIS strategies in the future, and was very enthusiastic about the value of infusing cooperative group interaction skills materials and approaches throughout the school program.

Summary

The program at Mesa Verde can be considered to be one of the most successful of the pilot test program. Several factors can be viewed as contributing to that success:

1. The school's inclination to support and encourage innovation and experimentation set up an atmosphere in which all concerned - administrators, teachers, students, and parents - seemed to be very open to new programs. That meant that the initial reception to the pilot test situation was positive.
2. The Management Class was a response to students' indication of interest in a particular career area - the vocational-technical cluster. Thus, their initial response to the curriculum in the course - given that they could see its relevance to their career area choice - was positive.
3. Students' attitudes toward the CGIS curriculum grew more positive as they were able to actually apply the skills presented to the very real and practical problems of their Management Evaluation Teams and to their Loan Company.
4. The CGIS program had the full and enthusiastic support of the teacher, who also had sufficient teaching experience and expertise to effectively conduct group work in the classroom.

The support and positive response of other adults (administrators, teachers, and parents) to the program also contributed to its overall success.

NEAH-KAH-NIE - ALTERNATIVE EDUCATION - ARTHUR

Effect of Learning on Task Performance; Application Phase and Follow-Up Observation

Based upon data recorded in the instructor's daily log, an examination of student response sheets, and discussions with students and instructor, it can be concluded that CGIS was successful with this group. The students' work rate remained consistent throughout the project. Their response sheets demonstrated understanding of the module skills. Their group work on context relevant tasks was generally good.

Data was gathered comparing the alternative education class and the regular ninth grade classes performance on an English grammar test. Both groups had access to the same information pool relevant to English grammar. The regular English classes experienced a uni-directional instructional pattern with the teacher serving as the primary information resource for the students, and the textbook as the primary exercise or skill application source. The traditional class did not involve group cooperation in the task of learning English grammar; the CGIS class did. The results of the exam indicated the median score of the CGIS group to be higher than the median score of the traditional English class.

All but three students passed the minimum requirements for ninth grade health, geography, mathematics, and science. Although no direct comparison was made between the CGIS class and other classes in these subject domains, it would be safe to conclude, based on the students' course work history, they would probably have failed in the regular curriculum.

Student Performance and Attitude

A steak-feed in the on-site coordinator's yard was offered as a reward to students in the CGIS classes. All but three from the Alternative Education group attended. A number of reasons can be assumed:

1. The students were ninth graders, and felt comfortable at school-related functions.
2. The students were not bothered by the fact that the on-site coordinator was also the high school principal.
3. The students were content with their performance in CGIS.

Based upon discussions with the instructors, three rationales were probably operating.

The 14 students in this class demonstrated a willingness to involve themselves in CGIS. Throughout the project, the group maintained a high degree of involvement.

Students were willing to work through the module exercises and to attempt group processes as prescribed by the modules. Based upon discussion with the students and the instructor, it could be concluded that the entire group, with the exception of two students, saw considerable merit in the CGIS program, and were gaining improved self-image and group competencies from the experience.

It is critical to note that this group was particularly unique. For the most part they had been identified as significant underachievers throughout their formal schooling experience. Their first semester at the high school was one of major course failure. All had failed at least three classes the first term. This was not particularly upsetting to the students when they were interviewed by the Guidance Department in December and January. They indicated that their performance the first semester was predicted on their part.

Their work rate and group performances in health education, geography, and English demonstrated significant growth over the term of the project. They were supportive in general terms of both the Alternative Education Curriculum and the CGIS methodology prescribed for this curriculum.

Their attitude toward their instructor was very positive. Based upon discussions with five of these students, there was consensus in the group that the instructor was perhaps the finest teacher they had ever experienced.

Teacher Performance and Attitude

The teacher had a background in Environmental Science. This was his first term teaching. He began teaching the Alternative Education class in January, 1976. He had graduated from the same high school serving as the test site, and had personal awareness of several of the Alt. Ed. students and their families. With these as apparent positive factors, plus the willingness and the sensitivity the instructor demonstrated toward these students, his performance would have predictably been superior to that obtained by the U.S. History teacher.

Throughout the project the instructor demonstrated a willingness to maintain an involvement with CGIS. His input in weekly conferences was thoughtful and demonstrated an increasing awareness of the implications CGIS had for learning and teaching.

His checklists and module evaluations were produced on schedule. His willingness to revise and innovate tasks compatible with CGIS proved to be of major importance to the success of the project in his classroom.

At the conclusion of his role he was able to indicate that many of his students and himself particularly did not wish to see CGIS terminate.

The instructor was consistently supportive of the conceptual base for CGIS and the modules. His feelings toward the content of the modules, their repetitive nature, and the lack of a sequential logic was less positive. Throughout the project, as demonstrated in weekly conferences, he was interested in revision of modules and extending the notion of cooperative learning throughout the system. His attitude toward his class was consistent with theirs toward him.

He saw students assume group leadership roles that they had never before occupied. He documented cases where group sanctions were imposed by the group membership to insure task attainment.

He demonstrated an initial uncertainty over what CGIS was all about and where it was heading. Part of this uneasy feeling was perhaps due to a total lack of formal training in instructional methods and models conducive to systemic teaching and learning. He recognized this early, and was quite positive in his attempts to further grasp the implication of CGIS for both himself as a teacher and his students as learners.

Summary

The CGIS project was most successful in this class for the following reasons:

1. Students involved were not capable of self-reinforcement or student success in the regular ninth grade program. The Alternative Education class and CGIS (which were often viewed by staff and students as being synonymous) was viewed by the students as their last hope to complete a formal secondary school education.
2. Parents of these students were supportive of CGIS, and of the Alternative Education class in general.
3. The instructor had not had negative experiences in the classroom as a teacher prior to the startup of CGIS.
4. The instructor faced CGIS with few preconceptions of group interactions. He took CGIS initially for what it said, thus providing CGIS with considerable face validity for the students.
5. The instructor had the ability to quickly establish classroom protocols that would allow for considerable flexibility in class management.

6. The instructor was also the ninth grade basketball coach which gave him considerable ethos in the eyes of the ninth graders in CGIS.

The instructor recommended teacher in-service training prior to initiating CGIS any further in the district. He saw CGIS as a viable alternative method for learning, and demonstrated willingness to maintain involvement should further work be done with CGIS.

Student responses indicate that they appreciated the opportunity to experience CGIS. They felt as though they had gained a great deal and felt better about themselves and their ability to perform in the classroom.

NEAH-KAH-NIE - U.S. HISTORY - SMETHURST

Effect of Learning on Task Performance; Application Phase and Follow-Up Observation

Instructor's log indicated students were inconsistent in providing out-of-class reports for the modules. The in-class module checklists were completed and did evidence student understanding of the module skills.

Student group performance varied considerably from group to group. On the whole, the U.S. History groups did function as prescribed. However, this was usually at a minimum level of acceptability.

Students were able to say that they considered CGIS experiences to be valuable to them. They were able to demonstrate at various times throughout the project keen insight into the need for cooperative skills.

It was evidenced that students in the CGIS class were capable of obtaining a more profound and sophisticated understanding of U.S. History topics than were the non-CGIS classes in U.S. History. Topics were selected for all U.S. History classes. The same information store was provided all classes. The examination for all classes was not significantly different. The CGIS classes were able to score higher on this exam than were the other classes. No significant differences could be identified among the classes that would immediately account for the difference in test scores.

The assumption that students who cooperatively share and process information regarding a common set of concepts will derive more from the information was given some support by the performance of the U.S. History CGIS class.

Student Performance and Attitude

Student attitude at the outset of the project was described by the instructor as simple confusion and resistance. There was an immediate risk factor present with the student questionnaire. There was the ubiquitous response of "Why us and not the other classes?"

Student attitude was most positive when context relevant tasks were clearly the focus of the module. For example, "leadership and power" was cast into a wagon train traveling from St. Louis to Sacramento in 1870. Students were asked to define roles of personnel within this type of group based upon their understanding of the Western Plains Movement, resources available to the pioneers, and the personality types they presumed would make up such a group. This type of task seemed to provide considerable integrity to student efforts. However, there was the concern that other classes in U.S. History were moving ahead through the textbook at a more rapid rate.

It was difficult to denote a growth or degenerative curve in total class attitude. There were indications that positive feelings toward CGIS occurred immediately following the imposition of sanctions for noncompliance with CGIS directives. However, this trend lasted but three to five days before many class members again began to feel ambivalent toward their involvement with the modules.

Reasons for the negative attitudes can be understood, perhaps, from several perspectives.

1. These students comprise the more hetergeneous group of the groups involved. No common consensus, either positive or negative,

was able to evolve from the class as a whole. As with most procedural/structural changes imposed upon groups, if there exists no positive consensus, there will exist by fiat a negative response. Due to the lack of group leadership, positive response was severely limited, and provided avenues for the nay-sayers to come forth, which they did.

2. These students were in a required course of study. They felt that CGIS might indeed have a negative effect on their eventual credit in U.S. History, and thus compromise their chance for graduation.
3. These students were products of a curriculum and an instructional mode that did not encourage cooperative interaction. They had not experienced a setting wherein their responsibility was other than to receive and emit information, and information at a non-sophisticated level of abstraction.
4. These students had spent the first 20 weeks of the school year in the U.S. History class where the methodology was essentially a uni-directional information flow from instructor or text to the student. If they had not experienced much success through this learner/instructor methodology, they had also not experienced much failure. The comfortable enui of the first 20 weeks was indeed challenged by the cooperative prescriptions and the incumbent responsibilities residual within CGIS.
5. These students were experiencing a first-year teacher who had had serious classroom control problems, and subject matter control problems the first five or six weeks of the school year. They had difficulty defining the instructor's mode of operation at the beginning of the year, and after forcing him into the uni-directional model in November, they now saw CGIS forcing him and them out of that model.

Students consistently expressed negative attitudes toward CGIS as evidenced by student comment, work pace (often rapid), and quality of student response on module checklists. Student performances in groups were often noncooperative. Individual group members were willing to carry major responsibilities for group success, and the responsibility was willingly given by other group members. As has been mentioned, greater cooperativeness and total group task activity increased when sanctions were imposed by the instructor. However, once the sanctions lost their immediate threat of failure (students found they could work around the sanctions), negative attitudes and performance resumed.

Interviews with students by the instructor and the on-site coordinator indicated that even though students were not positive toward the activity, they were positive toward the concepts and skills prescribed by CGIS. They saw immediate and long-range value to the skills, toward cooperative activity, and the resulting increase of their own personal effectiveness.

Teacher Performance and Attitude

The instructor met all obligations imposed upon him as a member of the project staff. He was quite capable of following the required guidelines and in generating module changes where necessary. His willingness to see CGIS succeed was demonstrated by his input to weekly project discussions, and the amount of context relevant tasks he developed for the various modules.

The instructor had had prior experience with group training routines of various types. His academic preparation in sociology, particularly his interest in values clarification, allowed him to readily involve himself in CGIS. It was noted, however, that he soon found that CGIS as a methodology was alien to his perspective of group training. He would have perhaps proved quite successful as a facilitator of group learning if in fact interpersonal skills were the substantive domain of the group task. In the test setting where he was asked to use CGIS as a methodology to teach students concepts from U.S.

History, he was unsure of himself.

The instructor had attempted a values clarification routine with all of his U.S. History classes in October, 1975. He assumed immediate receptivity on the part of his students toward this instruction. This experience proved to be very negative for both the instructor and the students. His misassessment of the students' predisposition to values clarification, and to self-assessment in general, was major cause for this disappointment.

The instructor's attitude as evidenced by comments during weekly conferences was often times quite flip. It was obvious to the coordinator that he was very frustrated not only with his own level of understanding of CGIS, but also with his students' performances. The instructor was very success oriented and the failure of CGIS to meet his expectations was of considerable threat to his own self-image as a teacher and as a classroom leader.

The coordinator found the instructor to have a definite interest in developing CGIS as an instructional methodology, and to ensure its implementation in the elementary grades. The probability of this occuring within a short time frame also bothered him. He saw future attempts to train students to learn via cooperative information exchange and cooperative processing to be futile until something was done to encourage such a methodological shift throughout the entire formal school system.

Summary

The CGIS experience in the U.S. History class was considered a success for the following reasons:

1. It demonstrated the applicability of CGIS as an instructional methodology in U.S. History.
2. CGIS students scored higher on information exams that did non-CGIS students.

3. Student checklists indicate an understanding of the cooperative skills sought for by CGIS.
4. The experience presented in this case study illustrates the presence of several variables and their impact upon the degree of success and failure of CGIS as an instructional methodology:
    A. Variable 1: classroom experience of the instructor is critical to success and failure. Such experience as being in complete command of established classroom protocols and student awareness is important.
    B. Variable 2: Pre-experience base between student and instructor is critical. If the pre-CGIS experience has been productive and self-satisfying to instructor and class, CGIS will have far greater success rations than would otherwise be the case. It would seem to make little difference what the prevailing instructional/learner mode would be prior to CGIS, as long as it met teacher/learner needs as such needs were perceived by the interactants themselves.
    C. Variable 3: In-service study for instructors is critical. Based upon instructors' recommendations, a minimum of 30 hours of in-service work. would be required to execute instruction employing CGIS skills.
    D. Variable 4: Cooperative Interaction teaching/learning must begin with the first formal schooling experience. It would appear that uni-directional, self-directed, and media-based learning could be accomodated from a primary CGIS methodology. However, it does not seem to follow that CGIS can evolve from or be imposed upon students who have accomodated uni-directional learner methods over a long period of time (perhaps four years).

PROSPECT HIGH SCHOOL - SALES CLASS - GEROULD

Effect of Learning on Task-Performance; Application Phase and Follow-Up Observation

One group in particular in this class demonstrated the ability to apply CGIS skills to a practical group task. As part of the Application Phase of one module, this group planned to conduct a survey of students at Prospect to determine their attitudes toward school.

Group members worked together effectively to design the survey questions, to plan, and to carry out the necessary steps in conducting the survey. After they had gathered responses, however, they could see that those responses did not yield the information which they wanted to have. At that point, they were able to see that the reason for the inappropriate data was because of the way in which they had worded the questions. They worked together to reconstruct their survey instrument so that the questions obtained the data they were seeking. They then conducted the survey, tallied and analyzed their results, and reported their findings.

The above procedure called for the group to use the CGIS skills they had been working with in the experimental curriculum. It was, additionally, an excellent experience for them (and for the rest of the class with whom they shared their experience) in the process of "research". It generated on their part a better understanding of the process involved in producing the CGIS curriculum itself.

Student Performance and Attitude

There were several problems affecting student performance at Prospect High School test site. Attendance was a major one partly because many of the students worked in the school cafeteria during the period allotted to the class (and as part of their Sales Class experience). This meant that students were often absent when a particular group activity occurred.

A second problem was the students' reaction to the amount of reading and the number of forms to be completed. They felt that they were asked to complete too many forms, and that the wording of the curriculum was too complex. In some cases, the open-ended questions ("Were your ideas used well?") could not be handled by the students; their responses often told more about the self-concept of the individual than of the functioning of the group ("Nobody ever listens to me.") Students also had difficulty relating questions to themselves. The response to "What was your biggest problem?" more often than not was a criticism of someone else.

The teacher felt that it was difficult for the students to verbalize their reactions in many cases, for example in the difficult area of conflict resolution. She felt that when students clearly understood the purposes behind a given activity, as in the labeling and brainstorming activities, they performed well.

Students tended to see group agreement rather than arriving at the best solution as the appropriate group goal. They needed guidance to place more emphasis upon the process involved in reaching the agreement than on the agreement itself.

Predictably, those students who actively participated felt they gained from the CGIS experience. The teacher saw these students as more tolerant of others and more interested in listening to others. She further observed positive changes in students' attitudes and behavior toward school, teachers, and staff. She found students attitudes toward working and getting along in groups to be more positive as well. She found it difficult, however, to assess whether or not students used these skills outside of the classroom.

Student attitudes toward the content of the course were mixed. In general, students considered cooperative group interaction skills as partially relevant and important in their daily lives.

One problem was that the language used in the curriculum was regarded with suspicion. Particularly, students had trouble with the concept of leadership. They were reluctant to take responsibility for leading others. ("I know enough to lead myself.")

Student attitudes toward the small group process were varied. At first, the teacher judged student reactions as favorable to the activities of CGIS but found students indifferent to the small group structure. Students were not accustomed to small group interaction in the classroom setting and the new situation was apparently difficult for some of them.

The actual quality of the communication within the groups varied depending on the group. One activity the students found difficult was the evaluation process. Rating each other was uncomfortable for them and they viewed it as potentially threatening to previously established interpersonal relationships.

Student attitudes toward the materials themselves were also mixed. Some agreed with the teacher that the program was generally good but often too abstract. It seemed easier for them to become involved in in-depth use of CGIS skills with a specific and concrete project or exercise. This was a factor in the success of the evaluation methods as well. Students felt they needed to be actively involved with a project before being asked to evaluate their performance. Many students felt that the modules could have tapped their personal resources more fully.

Teacher Performance and Attitude

In implementing the CGIS curriculum, Ms. Gerould encountered no problems in scheduling, space allocation, or staffing. She felt the curriculum could easily be installed in the school program using normally available resources. She suggested, however, that teachers receive some "background training in groups," if only four to six hours worth. Most materials she felt she had to explain, using her own knowledge of what was wanted. Generally, there was "not enough direction provided in the curriculum," she felt. She found the course required the teacher to utilize personal expertise, knowledge, and teaching strategies. However, she was sensitive to the experimental nature of the program and attempted to follow instructions carefully, altering the program as little as possible. She found the program worked better for students who were already working well in school because those students were the better readers and were more willing to follow directions.

Ms. Gerould had a specific recommendation to make about the pilot curriculum: "A lot of the materials are very good. The difference between success and weak answers had to do with the level of the material, the length of the activities, and the repeated type of evaluation questionnaires. A major research project should be part of a module."

She found the quality of content of group discussion varied with the group. One or two members of the group dominated, she believed, "because they are natural leaders." Some students were resistant to the program and chose not to participate, but of the four groups:

- one group got along smoothly and focused on the task;
- one group let competitiveness/friction interfere somewhat with accomplishment of the task; and
- two groups had some friction/apathy but devoted most of their time and energy to task.

Generally, the groups worked adequately together to choose their leaders but took a bit of prompting from the teacher to keep on task.

Ms. Gerould has nine years of teaching experience; however, "with the exception of setting groups up within the classroom, I have done no work with small groups." She volunteered to use CGIS. Ms. Gerould is now enrolled in a Group Counseling Course at San Jose State. She is working on her counseling credential. She feels approaches used in that course could have been very helpful in the CGIS course. Specifically, CGIS teachers should know:

- about expected reactions from groups;
- ways to lead groups in a particular direction;
- more about how to motivate groups; and,
- more about how to anticipate how turned-off high school students might react to anything new.

As a result of taking the Group Counseling Course, and looking back on her experience with CGIS, she is convinced that teachers should have a training course prior to teaching the CGIS curriculum. This could be a course such as the one in which she is enrolled, or it could be the CGIS course itself, done with other teachers. In any case, she feels the training should contain practice in the group interaction process, as well as follow-up evaluation and analysis of what happened in that practice, and instruction in how to apply what has been learned in the above processes specifically to the classroom.

The teacher's attitude was generally positive with certain qualifications. She saw the ability to interact cooperatively in task-oriented groups as the most important of the main objectives of the CGIS curriculum. She also felt the materials were very relevant to the life chances (career and occupational goals and plans) of her students. As written, however, she found some of the content boring, overly sophisticated, and repetitious. She considered the reading level more appropriate for college than for high school students. The instructional methods too she found somewhat inappropriate and ineffective for high school students. Nevertheless, she remained enthusiastic about the goals of CGIS and maintained that on the whole CGIS activities were interesting.

In fact, she indicated then that she would use the materials again if they were rewritten on what she considers a high school level because she feels the information is valuable. Further, she said she would recommend the CGIS curriculum to fellow teachers were the modules rewritten to her satisfaction.

She had several specific suggestions. For one, she stated that she "would like to see more in-depth projects so that the students would have more experience in a given skill area before they are asked to evaluate themselves and others in that area." If additional content/experience were added to the modules, each one would take much longer and would probably constitute a year-long course. She felt that if students had more practice, they would be better able to assess themselves in a given skill area.

Summary

While there were some problems in using the CGIS curriculum with this class, students and teacher seemed generally to conclude that those students who involved themselves in the group process set up by the modules gained from it. The success of the program would have been less had the teacher not provided support for the program and interest and sensitivity to her individual students and to the groups in which they worked.

Although Ms. Gerould expressed disappointment that she was able to complete only four of the modules, she indicated that she was glad she had agreed to test the program, and that she will use it again in the revised form. Her main concern is that students be provided the opportunity to experience the application of the CGIS skills to problems in which they are interested.

Her main recommendations are that the curriculum be geared more to high school students, simplified but with additional content, and that a teacher training component be included.

MT. DIABLO HIGH SCHOOL - LEADERSHIP CLASS - SETENCICH

Effect of Learning on Task Performance; Application Phase and Follow-Up Observation

The Leadership Class and their teacher, Kathyrn Setencich, agreed that they had successfully demonstrated their ability to apply the CGIS skills most effectively in one total-class job which they undertook near the end of the spring semester.

It was traditionally the responsibility of the Student Body Officers enrolled in the Leadership Class to plan and conduct the Awards Assembly for the total student body. This assembly had generally been a very lengthy one, due to the fact that all school awards were presented at that time, and most students considered it very boring.

The Leadership Class expressed the wish to improve the assembly and, for the purpose of planning it, requested that the CGIS small groups be suspended and that the class function as a total group. As a total class group (sixteen students), they demonstrated many of the CGIS skills and utilized such specific activities as brainstorming, which they judged to be especially productive in generating new ideas. The assembly planning process constituted the Application Phase of the Planning module.

The group planning process resulted in such changes as presenting the assembly "in the round" in the cafeteria. This physical re-structuring allowed more people to be closer to the stage than had always been the case in the traditional arrangement of all students facing the stage at one end of a large gymnasium. Other changes in the process added humor and life to the assembly and shortened the time required to make the awards presentations.

The Leadership Class was pleased with the results of their planning and received very positive feedback from the student body as a whole. Everyone agreed that there had been substantive improvement in the Awards Assembly. The teacher expressed satisfaction that the class had experienced positive, practical validation of their group skills.

Student Performance and Attitude

Students were concerned about being asked to remain in the same small groups for the entire semester. They felt that the restriction caused them to miss working with all the students in the class. Their request to work in one large group (sixteen people) to plan the Awards Assembly proved successful, perhaps partly because they had had some influence in determining the class structure.

Both teacher and students were bothered with the large number of forms to be completed. They felt that many of the forms asked the same questions and that students consequently lost interest and stopped taking the questions seriously. In some cases, their answers became flippant and sarcastic. They also felt that questions needed more specific alternatives as possible answers; they were uncomfortable with open-ended questions.

The students also seemed to prefer to have the materials in self-instructional packets, rather than in a worksheet-by-worksheet approach controlled by the teacher. They wanted to "move faster" on the materials, and found some of them "too simple". Some activities, such as note-taking, they felt they "already knew how to do"; others, such as seeing the optical illusions, many had already done in other classes. These materials then lost their impact.

While, on the one hand, the course content was viewed as too long to complete in one semester, students also felt that to work directly on group skills every day was too difficult. The consensus seemed to be that, if group skills were going to be taught directly, two classes a week was about the right amount of time to spend on them.

Students seemed most interested in, and got the most out of, activities which were challenging and new to them. For example, they responded positively to the diagram activity. It seemed simple to them at first; however, when only one student "got it" during the first round, they took the activity much more seriously during the second round.

A second activity to which they responded enthusiastically was the mystery story which required the group to cooperate in order to solve the problem. Their positive reaction to that activity prompted Ms. Setencich to place it first in next year's course.

Students were generally insightful and were able to draw appropriate conclusions from the activities. They saw, for example, that "we all label each other and this blocks a group's activities." Students understood and respected the value of learning group skills.

By far the most successful activities for this class were those which called for the group to take specific, real action. However, the problem dealt with in the Conflict Resolution Application Phase proved to be frustrating. It concerned a campus problem (the incorporation of a large group of students from another school in the district which had been phased out, and how to deal with such problems as cliques, integration of the two schools' athletic teams, yell leaders, student body leaders, etc.). The problem seemed to be too amorphous and distant (it would not occur until the following school year) for them to be able to deal with it in any clear-cut way.

On the other hand, the Application Phase of the Planning module (the previously described task of planning the Awards Assembly) provided the kind of challenge to which the students could respond.

As students contributed significantly to their group, their images of themselves became more positive, and the teacher observed that there was definite improvement in group functioning over the course of the semester.

Teacher Performance and Attitude

Ms. Setencich made several modifications in the CGIS presentation in order to accomodate needs of her class. She found that, because of other demands on the time of the student leaders (the class was created to give those students time to do the work required by their offices), it was not possible to cover as much material as she had hoped. It was also difficult to convince the students, especially at the beginning of the semester, of the value of the material. Finally, she found that it was easier to use the materials with the more verbal students in the class than it was to use them with students who were not comfortable speaking and writing.

Modifications in the presentation included the following:

1. working with the total class group for planning the assembly rather than in small groups;
2. distributing instructional materials for two modules (Planning and Cooperative Effort) in self-instructional packets rather than handout by handout;
3. balancing the amount of time spent in groups and the amount of time spent on individual assignments; and,
4. rearranging the order in which some materials were presented.

The curriculum, she said, fit in well using the regular school resources. CGIS goals she considered important and compatible with the school's orientation. Further, she found instructional methods appropriate, effective, and well matched to her and her students' capabilities and needs. She found many of the activities informative, challenging, and interesting.

She felt that some of the activities - such as the labelling activity - required careful handling on the part of the teacher in order to respond sensitively to students' feelings. The teacher must be able to work effectively with the group process.

Students, she felt, saw CGIS as somewhat important and relevant to their daily lives. While she was able to observe little positive change in student attitudes and behavior toward school, teachers, and staff, she did observe that students worked together and got along better in their groups.

Ms. Setencich said that the curriculum made students aware of problem areas in their interaction skills and they were able to recognize their own negative behaviors. However, they weren't always made aware of how to get out of those negative behavior patterns, and that is one area in which the curriculum could be developed further.

While the small group structure of the course bothered some students who saw it as taking time away from specific tasks related to their offices, students did seem to accept the CGIS curriculum well, on the whole, and their overall reaction to the activities was judged favorable.

Looking back on the semester, Ms. Setencich felt that student learned to integrate their personal goals and values with their work group's goals and values most of the time. She found that students performed their group tasks adequately and that they maintained unity in their work groups, albeit with some difficulty. She found them to be very skillful in task-oriented communication.

Her impression of the curriculum, in general, was favorable. The impression of others who knew about the curriculum (teachers, administrators, parents, students not in the class) she believed to be favorable. She felt that the small group instruction in group process was the most important aspect of the curriculum, and felt it could be integrated into other subject areas (such as psychology and sociology).

She considered the language level appropriate, but the wording sometimes stuffy. The curriculum, she suggested, needed condensation to eliminate repetition.

Ms. Setencich indicated that she intended to adapt some of the CGIS materials and activities for use in other classes, and that she would use the (revised) curriculum in the 1976-77 Leadership Class. Further, she intended to develop a CGIS course which would be offered to student body officers during the summer session after they had been elected, but before they had actually served in their offices. She hopes to develop the course in time for the 1977 summer school session to use with the 1977-78 student body officers. Presenting the material to the new officers, she felt, would give them the group interaction skills they needed from the very beginning of their tenure. She invited the cooperation of Far West Laboratory in developing this course.

Summary

The CGIS materials proved effective with this group of academically-oriented, highly-motivated student body leaders in providing them with experiences which enabled them both to function better in groups and to look at the group process itself. Since most of these students were already reasonably proficient in interaction skills - as demonstrated, perhaps, by the fact that they had been elected to student body offices in a large suburban school - they seemed able to respond to the materials in more depth than other groups in the pilot program. They thus provided an insightful response to the materials and to the research project. Both their negative and their positive evaluations were very useful, for example, in the revision of the student and teacher materials.

Students in a class such as this one tend to demand that their time be well-spent. It can serve as a strong validation of the CGIS materials that Ms. Setencich has elected to use them again with her Leadership Class, and, in fact, intends to develop a CGIS course for future student body officers to take during the summer session.

SUMMARY INTERPRETATION

A summary of the pilot program results shows that the cooperative group interaction skills curriculum is valuable for secondary students in a variety of settings.

Findings include:

- On the average, students who completed the CGIS modules felt that they had a "good" ability to apply the skills presented in those modules.
- Teachers, students, and administrators judged the learning of cooperative group interaction skills to be important and valuable.
- Based on observation by teachers and other adults, students who completed the modules applied skills they had learned there to other tasks required by groups in which they participated.
- The skills in this area of competence are difficult to teach and require intensive involvement over at least one school year, and preferably longer. Ideally, cooperative group interaction skills would be taught throughout the total school program, K-12.
- Success of the program depends to a significant degree on the interaction skills demonstrated by the instructor. In-service teacher training in CGIS is therefore critical.
- CGIS proved applicable as an instructional methodology as well as a course of study.
- CGIS proved valuable to students of varying abilities--from under-achievers to average students to student leaders, and in a variety of contexts--from alternative education to vocational education to more traditional academic subjects.
- Students were most successful when they were applying cooperative group interaction skills to real life problems of sufficient complexity to

prove challenging, but not so difficult as to prove overwhelming. Thus the practical application of CGIS should be emphasized.

- The CGIS curriculum can be successfully implemented in a regular school program.

  The language level of the pilot test modules proved to be somewhat difficult for some students.

Further Reflections on and Implications of the CGIS Curriculum

The Oregon on-site coordinator, Dr. Don Langan, speculates further on the implications of a CGIS curriculum within the larger context of education in general.

CHAPTER NINE: RECOMMENDATIONS

An interpretation of research findings and an assessment of the programmatic and product outcomes of the project lead us to make a set of recommendations for continued research and design and development work.

A. Field Testing of the Research Curriculum

The current project must be considered as an initial research effort coupled with a pilot testing of a Research Curriculum. The student and teacher materials that have been revised based on the pilot test should now be field tested, as a continuation of the research effort.

The curriculum should be tested: (1) to determine its value as a clearly defined domain of the program of the school, with its own set of goals and objectives, content, learning experiences, and assessment means and methods; (2) to investigate the effect of learned skills on task/job oriented performance. If the results of the field testing warrant it, the program could be again revised, tested nationally, and then disseminated.

B. The Design of Teacher Training

The analysis and interpretation of the pilot test findings clearly indicate that in all settings the value and effectiveness of the curriculum is greatly enhanced: (1) if the teacher has had previous training in group skills; and, (2) if the teacher is competent in the planning and implementation of curricula in group skills. Therefore, we strongly recommend the development of a teacher training program to specifically prepare teachers to use the research curriculum. Teachers in the pilot test felt that any training in group work benefited them in presenting the curriculum, in knowing what to anticipate in terms of general group dynamics, and in having the skills themselves to handle group situations. They felt the need for this training not only to handle problems, but also in order to be supportive for the positive aspect of the group process.

While they felt that any training in group work would be beneficial, their preference was for specific study of the research curriculum in a setting which would allow the teachers themselves to experience the curriculum. Since the research curriculum is experiential, it is a handicap for a teacher to present the material without having participated in the activities personally. Being a skills curriculum, CGIS should be introduced through problem exposure, implemented as skill learning, and practiced through skill application. It should be presented in the functional context of in- and out-of-school, real-life situations and tasks which are relevant and meaningful to the learner.

Teacher training in CGIS would also provide guidance and structure for teachers to prepare and try out (with the teachers in the class) group skills activities relevant to their subject areas, and to evaluate the results.

The reasoning developed above leads us to suggest that training research be conducted which would lead to the design of an in-service/pre-service program for vocational education professionals in planning, conducting, and evaluating the effectiveness of a curriculum in group skills oriented toward task performance.

C. Fusion with Subject Areas

The CGIS curriculum can be integrated with other domains of the school's program, such as the cognitive, technical, and life skills, the attitudinal domain, the information/knowledge base, and other adaptability skills.

If the program of the school is structured in subject matters, the CGIS curriculum should also be fused with those. The pilot test program demonstrated that such fusion was definitely possible. However, using the existing separate CGIS curriculum, it required skill on the part of the teacher in integrating it with the existing course content. It also required teacher time to adapt activities, time which is seldom available in regular teaching assignments. Design and development of interaction curricula fused with subject content is an area in which future research and development activities can make an important contribution. These materials could be produced in packages similar to the Research Curriculum developed by this project; i.e. a series of student worksheet masters which could be duplicated by the teacher, along with teacher materials instructing how the curriculum can be implemented.

Special effort should be made to develop materials to integrate the INTERACTION curriculum with Vocational Education programs. Since people require cooperative group interaction skills, especially in work situations, and since the traditional work preparation programs seem to overlook this requirement, such materials would be especially useful.

Figure A at the end of this chapter shows how CGIS can be integrated into the general curriculum.

D. Development of Curricula at Each Grade Level

Research conducted for this project has shown that interaction skills can be isolated and taught and that they should be introduced at a very early level in the educational process.

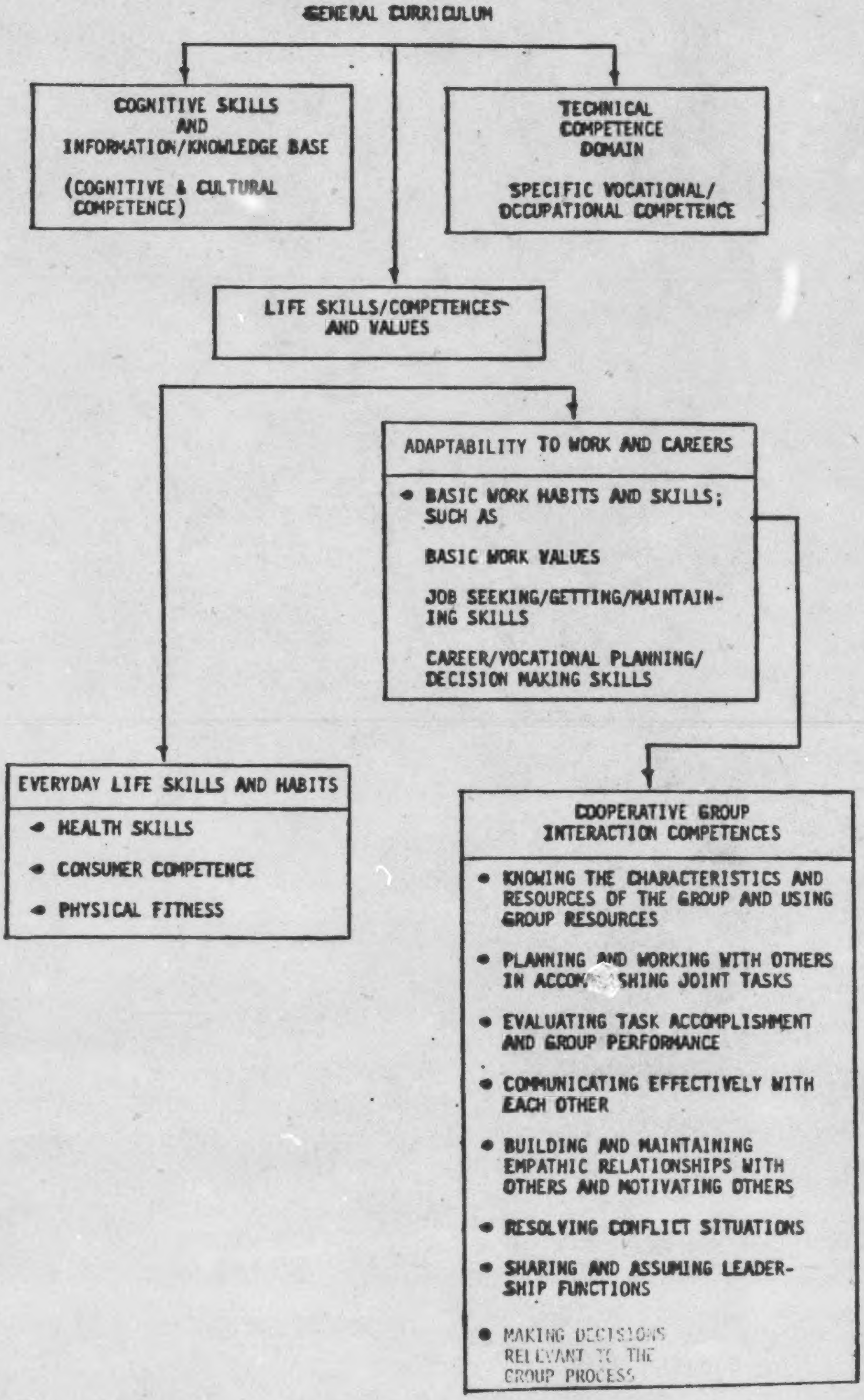
It is especially important that group skills be introduced to children as early as possible so that the related knowledge, attitudes, and skills can be experienced in daily life at school and at home over a long period of time.

This would suggest a longitudinal scheme for the CGIS curriculum to be implemented in a spiralic model; revisiting the skill areas and expanding the skill and its application. Learning will take place in increasingly more depth and at a higher level of competence. The curricula implemented from the very first day of school on, throughout all levels, with special emphasis placed on it whenever career and vocational education is introduced.

The Research Curriculum developed by the project reported here presents interaction skills for secondary students only, and serves to begin the work on a total CGIS curriculum. It would now be advisable to extend the CGIS curriculum into the earlier grades in three blocks; one presenting CGIS at the intermediate level (grades 4 through 6) and one presenting CGIS at the primary level (grades K-3). The design and development of a curriculum for the junior high level (grades 7-8) might involve adapting the present secondary INTERACTION Research curriculum.

FIGURE A

Fitting INTERACTION into the Overall Curriculum


GENERAL CURRICULUM
COGNITIVE SKILLS AND INFORMATION/KNOWLEDGE BASE
(COGNITIVE & CULTURAL COMPETENCE)
TECHNICAL COMPETENCE DOMAIN
SPECIFIC VOCATIONAL/OCCUPATIONAL COMPETENCE
LIFE SKILLS/COMPETENCES AND VALUES
ADAPTABILITY TO WORK AND CAREERS
• BASIC WORK HABITS AND SKILLS; SUCH AS
BASIC WORK VALUES
JOB SEEKING/GETTING/MAINTAINING SKILLS
CAREER/VOCATIONAL PLANNING/DECISION MAKING SKILLS
EVERYDAY LIFE SKILLS AND HABITS
• HEALTH SKILLS
• CONSUMER COMPETENCE
• PHYSICAL FITNESS
COOPERATIVE GROUP INTERACTION COMPETENCES
• KNOWING THE CHARACTERISTICS AND RESOURCES OF THE GROUP AND USING GROUP RESOURCES
• PLANNING AND WORKING WITH OTHERS IN ACCOMPLISHING JOINT TASKS
• EVALUATING TASK ACCOMPLISHMENT AND GROUP PERFORMANCE
• COMMUNICATING EFFECTIVELY WITH EACH OTHER
• BUILDING AND MAINTAINING EMPATHIC RELATIONSHIPS WITH OTHERS AND MOTIVATING OTHERS
• RESOLVING CONFLICT SITUATIONS
• SHARING AND ASSUMING LEADERSHIP FUNCTIONS
• MAKING DECISIONS RELEVANT TO THE GROUP PROCESS

APPENDICES

Appendix A: The Curriculum Map

Appendix B: Operational Definitions of Effects To Be Tested in Task-Oriented Groups

Appendix C: Summary Charts of Selected Evaluation Items

Appendix D: Some Reflections on and Implications of The CGIS Curriculum

Appendix A: The Curriculum Map

Curriculum Domain: Group Productivity

Content Areas	Broad Learning Outcomes		
	Attitude	Knowledge/Information	Skills
Goal Setting		· know that goals are shaped by a value orientation · know why you would want to attain a particular goal · understand that goals are general statements of desired outcomes that can be supported by people of different views	· able to identify those goals shared by the group · able to assign a priority to these goals · able to identify what situation in the environment the goal is addressing
Planning	· value a systematic approach to tasks · value a few things done well rather than several things partially completed · open to suggestions	· know the problem confronted by the group · understand the constraints created by the situation · understand the necessity to attend to a limited number of goals only · understand the necessity for consistency between alternative strategies and goals · know the resources of the group · understand the problems that time can create for individual members	· able to state the problem concretely · able to propose several alternative solutions · identify the resources needed by each alternative · able to identify goals that are consistent with the goal and basic value orientation of the group · able to identify those goals that are attainable by the group · able to facilitate full participation in decision-making
Information Processing: Collection	· appreciate the variety of sources for information · value good information	· know what sources for information are available · know what kind of information is needed · know how to collect the various kinds of information · know the importance of good information	· able to collect a variety of pertinent information
Information Processing: Analysis and Synthesis		· know how to retain information · know what information is useful · know how to use information	· able to understand (interpret) information · able to retain information · able to identify useful information · seek to use information in creatively useful ways · seek relationships, understandings, and meanings in the information
Information Processing: Sharing	· appreciate the power exerted by control of information · value the sharing of information	· know how to access information already collected · know the dangers of stoppage of information flow	· establish procedures for sharing information
Group Guidance	· willingness to evaluate self and others · open to criticism from fellow members · willingness to make adjustments in plans as needed	· know how to coordinate several tasks · know how to control via consensus rather than authority · know when adjustments should be made · know how to use the resources of the group	· able to guide activity of group toward goal achievement · able to develop group process such that group is self corrective · able to coordinate several tasks at once able to make adjustments when necessary
Shared Responsibility	· willingness to function as a leader or member · open to suggestion · willingness to assume responsibility · willingness to share skills with other members · willingness to share decision-making and leadership	· know how to explain a position or idea	· able to teach or instruct other group members · able to explain decision, position, etc. · able to share leadership and decision-making

Appendix B: Operational Definitions of Effects To Be Tested In Task-Oriented Groups

APPENDIX B

Operational Definitions of Effects To Be Tested in Task-Oriented Groups

(a) Adjustment to the work setting is defined operationally as the student-worker's ability: to get along with co-workers and supervisors in a cooperative manner; to be flexible in taking on leadership and membership roles in his/her work group as appropriate; to communicate openly and effectively with others; to participate actively in the accomplishment of the group task and in the maintenance of group cohesion; to follow instructions and to accept constructive criticism; to demonstrate reliabiility, self-direction, drive, and loyalty; to contribute his/her unique resources, knowledge, talents and skills; to contribute to the resolution of conflicts that arise in the work setting; to extend helping relationships and counsel to work-group members; and, in general, to identify with and participate in adult roles and responsibilities in a real-life or simulated work setting.

(b) Job Satisfaction in the work setting is defined operationally as the student-worker's ability: to experience personal and professional development in his/her work group; to be motivated to fulfill his/her goals and needs by integrating them with the goals, needs, and characteristics of the work group and its members; to experience and participate in warm task-oriented and socio-emotionally oriented relationships and interactions in the work group; to utilize his/her own unique talents, knowledge, resources, and ideas in contributing to the accomplishment of the group task and the maintenance of the group's cohesion; and to fulfill his/her career aspirations.

(c) Effective Group task performance and group maintenance is (are) defined operationally as the student-worker's ability: to engage in effective problem-solving, decision-making, planning, evaluation, communication, conflict resolution, coordination of group work, functional leadership, cooperative group interaction, and utilization of group resources, with the members of his/her work group such that the group as well as the individual members attain shared goals, accomplish group tasks, and maintain cohesion and solidarity in the work group.

Appendix C: Summary Charts of Selected Evaluation Items

Module I - Communication

Mesa Verde - Cimino
N = 14

SSE 2 - Item F
Overall Average = 3.0

For each of the 6 statements below, circle the phrase which best describes what is your level of understanding or skill.

	Very Good	Adequate	In-Adequate	Very Poor	Average
1. Presenting ideas and feelings to others in such a way that they are taken seriously and responded to.	1	11	2	0	2.9
2. Listening carefully to the ideas of others and taking them into consideration when formulating your ideas to help a group accomplish its task.	3	11	0	0	3.2
3. Being sensitive to feelings and non-verbal cues from others.	2	8	3	0	2.9
4. Encouraging others by being non-threatening and receptive to their ideas and suggestions.	2	11	1	0	3.1
5. Storing information either in your mind or with notes so that you can use it later in helping a group accomplish its task.	2	9	3	0	2.9
6. Realizing that each person has his/her own values and perspectives which will influence what information he/she listens to, remembers, and presents.	3	10	1	0	3.1

Module I- Communication

Mesa Verde - Cimino
N = 14

SSE 2 - Item G
Overall Average = 3.1

Under each of these same 6 statements in the following table, write the letter of the phrase which best describes what is the level of understanding or skill of each member of your group. Use the following rating scale: A - very good B - adequate C - inadequate D - very poor

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Presenting Ideas	26	28	8	1	3.3
2. Listening	24	28	9	2	3.2
3. Sensitive to Non-verbal Cues	17	27	17	2	2.9
4. Encouraging	15	36	7	4	3.0
5. Storing	23	26	13	0	3.2
6. Values	20	33	8	2	3.1

Module III - Conflict Resolution

Mesa Verde - Cimino
N = 10

SSE 2 - Item B
Overall Average = 3.3

For each of the statements below, circle the phrase which best describes what is your level of understanding or skill.

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Determining the different sources and types of conflict present in a given group situation.	1	9	0	0	3.1
2. Assessing my own unique abilities and skills for coping constructively with conflicts in groups.	4	5	1	0	3.3
3. Determining other people's skills and limitations for coping constructively with conflicts in groups.	0	10	0	0	3.0
4. Clarifying my own values and those of others as they affect the resolution of conflicts.	3	7	0	0	3.3
5. Expressing my own feelings honestly and sensitively in dealing with conflicts within groups.	4	5	1	0	3.3
6. Selecting and using appropriate strategies to resolve conflicts in group situations.	2	8	0	0	3.2
7. Evaluating and adjusting decision-making and plans of actions to ensure successful conflict resolution.	3	7	0	0	3.3

Module III - Conflict Resolution

Mesa Verde - Cimino
N = 10

SSE 2 - Item C
Overall Average = 3.4

Under each of the same 7 statements in the following table write the letter of the phrase which best describes what is the level of understanding or skill of each member of your group. Use the following rating scale: A - very good B - adequate C - inadequate D - very poor.

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Determining types of conflicts.	24	27	3	0	3.4
2. Assessing own skills.	31	19	4	0	3.5
3. Determining others' skills.	20	31	2	1	3.3
4. Clarifying values.	29	21	4	0	3.5
5. Expressing feelings.	32	20	2	0	3.6
6. Using appropriate strategies.	25	24	5	0	3.4
7. Evaluating and adjusting action.	22	29	2	1	3.3

Module IV - Planning

Mesa Verde - Cimino
N = 12

SSE 2 - Item A
Overall Average = 3.1

For each of the statements below, circle the phrase which best describes what is your level of understanding or skill.

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Considering the nature of the task.	0	12	0	0	3.0
2. Considering the resources available for the task.	0	12	0	0	3.0
3. Considering obstacles which may hinder the accomplishment of the task.	1	11	0	0	3.1
4. Considering alternative ways of accomplishing the task.	1	11	0	0	3.1
5. Considering the criteria for selecting an alternative.	2	10	0	0	3.2
6. Choosing an alternative.	2	10	0	0	3.2
7. Considering the details of the plan.	2	10	0	0	3.2
8. Evaluating your planning process.	0	12	0	0	3.0

Module IV - Planning

Mesa Verde - Cimino
N = 12

SSE 2 - Item B
Overall Average = 3.4

Under each of the same 8 statements in the following table write the letter of the phrase which best describes what is the level of understanding or skill of each member of your group. Use the following rating scale: A - very good B - adequate C - inadequate D - very poor.

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Evaluating	33	27	4	0	3.5
2. Details	24	36	4	0	3.3
3. Choosing Alternatives	20	37	7	0	3.2
4. Criteria	26	30	8	0	3.3
5. Alternatives	31	28	5	0	3.4
6. Obstacles	23	37	4	0	3.3
7. Resources Available	27	34	3	0	3.4
8. Nature of The Task	27	33	4	0	3.4

Module V - Evaluation

Mesa Verde - Cimino
N = 13

SSE 2 - Item A
Overall Average 3.4

For each of the statements below, circle the phrase which best describes what is your level of understanding.

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Determining what should have happened in a situation.	6	7	0	0	3.5
2. Determining what did happen in a situation.	7	6	0	0	3.6
3. Determining the similarities and differences between what happened and what should have happened.	4	8	1	0	3.2
4. Determining reasons for similarities and differences.	3	10	0	0	3.2
5. Deciding what to do to improve in the future.	4	9	0	0	3.3

Module V - Evaluation

Mesa Verde - Cimino
N = 13

SSE 2 - Item B
Overall Average = 3.5

Under each of the same 5 statements in the following table write the letter of the phrases which best describes what is the level of understanding or skill of each member of your group. Use the following rating scale: A - very good B - adequate C - inadequate D - very poor

	Very Good	Adequate	Inadequate	Very Poor	Average
1. Determining what should have happened.	56	24	2	0	3.7
2. Determining what did happen.	47	33	2	0	3.5
3. Determining differences and similarities.	35	45	1	0	3.4
4. Determining reasons.	38	22	0	0	3.6
5. Determining ways to improve.	32	47	2	0	3.4

Module I - Communication

Mesa Verde - Veatch
N = 14

SSE 2 - Item F
Overall Average = 2.9

How well do you communicate? Below are six communication skills. For each one, circle the phrase that best describes how well you have already learned that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Presenting your ideas so that others will respond to them.	0	12	2	0	2.9
2. Listening carefully and trying to understand the ideas of others.	1	12	1	0	3.0
3. Understanding the feelings of others.	0	9	5	0	2.6
4. Encouraging others by listening to and accepting their ideas.	0	10	4	0	2.7
5. Keeping information in your head or in notes.	2	11	1	0	3.1
6. Knowing that different people have different interests which affect the way they act in a group.	4	9	1	0	3.2

Mesa Verde - Veatch
N = 14

SSE - Item G
Overall Average = 3.0

The chart below will show you the same six communication skills which you used as guidelines to describe yourself. Now use these skills to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, show how well the different members have learned the communication skills. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Present ideas.	2	66	7	0	2.9
2. Listen to ideas.	1	69	4	1	2.9
3. Understand the ideas of others.	2	66	7	0	2.9
4. Encourage others.	3	51	21	0	2.8
5. Keep information.	8	57	9	0	3.0
6. Understand why people act different ways.	6	66	2	1	3.0

Module II - Resources of the Group

Mesa Verde - Veatch
N = 9

SSE - Item A
Overall Average = 3.1

Below are five skills that people need to work in groups. After each one, circle the phrase which best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Figuring out the resources that will help the group stay together and do its job well.	2	7	0	0	3.2
2. Recognizing the resources that you have to do a certain job.	2	7	0	0	3.2
3. Recognizing the resources that other group members have to do a certain job.	2	7	0	0	3.2
4. Figuring out the best way to use the resources of the whole group.	8	1	0	0	2.9
5. Deciding what to do if the group doesn't have the resources it needs to do its job.	1	6	2	0	2.9

Module II - Resources of the Group

Mesa Verde - Veatch
N = 8

SSE 2 - Item B
Overall Average = 3.1

Below are the same five skills which you used as guidelines to describe yourself. Now use them again to describe the other members of your group. On the left side of the chart, write the name of each group member. Then describe each group member's understanding of the skills. Under each skill, write very good, good, poor, or very poor.

	Very Good	Good	Poor	Very Poor	Average
1. Figure out resources needed.	3	30	0	0	3.1
2. Recognize own skills.	7	26	0	0	3.2
3. Recognize others' skills.	2	31	0	0	3.1
4. Figure out use of resources.	5	28	0	0	3.2
5. Decide how to find new resources.	2	31	0	0	3.1

Module III - Conflict Resolution

Mesa Verde - Veatch
N = 9

SSE 2 - Item B
Overall Average = 3.1

Below are seven skills which play an important part in conflict resolution. After each one, circle the phrase that best describes your ability to do that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Knowing the different kinds of conflict and causes of conflict among group members.	1	7	1	0	3.0
2. Knowing how well you can deal with group conflicts.	1	7	1	0	3.0
3. Knowing how well the others can deal with group conflicts.	1	8	0	0	3.1
4. Explaining what you believe or what others believe in order to resolve group conflicts.	2	7	0	0	3.2
5. Expressing yourself honestly and openly while dealing with group conflicts.	1	8	0	0	3.1
6. Figuring out the best way to resolve conflicts among group members.	0	9	0	0	3.0
7. Knowing when ideas or plans will have to be changed in order to resolve group conflicts.	0	9	0	0	3.0

Module III - Conflict Resolution

Mesa Verde - Veatch
N = 8

SSE 2 - Item C
Overall Average = 3.3

The next chart shows the same seven conflict resolution skills which you used as guidelines to describe yourself. Now use these guidelines to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, describe each member's ability to do each skill. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Determine types of conflict.	21	42	1	0	3.3
2. Assess own skills.	21	43	0	0	3.3
3. Determine others' skills	14	50	0	0	3.2
4. Clarify values.	18	44	1	0	3.3
5. Express feelings.	20	38	6	0	3.2
6. Use appropriate strategies.	17	46	1	0	3.3
7. Evaluate and adjust actions.	21	43	0	0	3.3

Module IV - Planning

Mesa Verde - Veatch
N = 8

SSE 2 - Item A
Overall Average = 3.2

For each of the statements below, circle the phrase which best describes what is your level of understanding or skill.

	Very Good	Good	Poor	Very Poor	Average
1. Understanding the job that has to be done.	4	4	0	0	3.5
2. Knowing what resources you will be able to use.	3	5	0	0	3.4
3. Thinking about the problems that lie ahead.	1	7	0	0	3.1
4. Thinking about different ways to do the job.	1	7	0	0	3.1
5. Studying these different ways.	1	7	0	0	3.1
6. Choosing the best plan of action.	2	5	1	0	3.1
7. Working out the details of your plan.	2	6	0	0	3.3
8. Stopping and thinking about how well you have done the first seven steps.	1	6	1	0	3.0

Module IV - Planning

Mesa Verde - Veatch
N = 8

SSE 2 - Item B
Overall Average = 3.2

The chart below shows the same eight skills you used as guidelines to describe the others in the group. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Nature of the job.	3	23	1	0	3.1
2. Resources available.	10	16	1	0	3.3
3. Problems.	5	17	5	0	3.0
4. Different ways.	6	20	1	0	3.2
5. Studying plans.	6	19	2	0	3.1
6. Choosing best plan.	10	16	1	0	3.3
7. Details.	7	15	1	0	3.3
8. Evaluating	4	17	1	1	3.0

Module V - Evaluation

Mesa Verde - Veatch
N = 8

SSE 2 - Item E
Overall Average = 3.1

Five skills that you use when you evaluate group performance are listed below. For each skill, circle the phrase which describes your own understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Deciding what should have happened in a situation.	0	7	1	0	2.9
2. Deciding what did happen in the situation.	1	7	0	0	3.1
3. Noticing ways in which what did happen was like or unlike what should have happened.	0	8	0	0	3.0
4. Figuring out reasons for these likenesses and differences.	1	7	0	0	3.1
5. Deciding what to do to make things better in the future.	2	5	0	0	3.3

Module V - Evaluation

Mesa Verde - Veatch
N = 8

SSE 2 - Item F
Overall Average = 3.0

The chart below shows the same five skills you used as guidelines to describe yourself. Now use these guidelines to describe the other people in your group. For each person, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Decide what should have happened.	8	17	6	0	3.1
2. Decide what did happen.	6	20	4	0	3.1
3. Notice likenesses and differences.	3	22	5	0	2.9
4. Figure out reasons.	8	18	4	0	3.1
5. Decide on ways to make better.	7	18	6	0	3.0

Module I - Communication

Neah-Kah-Nie - Arthur
N = 11

SSE - Item F
Overall Average = 2.9

How well do you communicate? Below are six communication skills. For each one, circle the phrase that best describes how well you have already learned that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Presenting your ideas so that others will respond to them.	2	4	5	0	2.7
2. Listening carefully and trying to understand the ideas of others.	2	8	1	0	3.1
3. Understanding the feelings of others.	2	9	0	0	3.2
4. Encouraging others by listening to and accepting their ideas.	2	4	5	0	2.7
5. Keeping information in your head or in notes.	0	6	5	0	2.5
6. Knowing that different people have different interests which affect the way they act in a group.	2	7	2	0	3.0

Module I - Communication

Neah-Kah-Nie - Arthur
N = 11

SSE - Item G
Overall Average = 2.5

The chart below will show you the same six communication skills which you used as guidelines to describe yourself. Now use these skills to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, show how well the different members have learned the communication skills. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Present ideas.	4	18	10	2	2.7
2. Listen to ideas.	5	22	5	2	2.9
3. Understand the ideas of others.	3	18	6	2	2.8
4. Encourage others.	1	14	14	5	2.3
5. Keep information.	4	8	8	9	2.2
6. Understand why people act different ways.	1	10	10	5	2.3

Module II - Resources of the Group

Neah-Kah-Nie - Arthur
N = 11

SSE 2 - Item A
Overall Average = 2.7

Below are five skills that people need to work in groups. After each one, circle the phrase which best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Figuring out the resources that will help the group stay together and do its job well.	0	8	3	0	2.7
2. Recognizing the resources that you have to do a certain job.	0	8	3	0	2.7
3. Recognizing the resources that other group members have to do a certain job.	0	6	5	0	2.5
4. Figuring out the best way to use the resources of the whole group.	0	10	1	0	2.9
5. Deciding what to do if the group doesn't have the resources it needs to do its job.	0	9	1	1	2.7

Module II - Resources of the Group

Neah-Kah-Nie - Arthur
N = 11

SSE 2 - Item B
Overall Average = 2.7

Below are the same five skills which you used as guidelines to describe yourself. Now use them again to describe the other members of your group. On the left side of the chart, write the name of each group member. Then describe each group member's understanding of the skills. Under each skill, write very good, good, poor, or very poor.

	Very Good	Good	Poor	Very Poor	Average
1. Figure out resources needed.	2	29	10	1	2.8
2. Recognize own skills.	3	28	9	2	2.8
3. Recognize others' skills.	2	21	16	3	2.5
4. Figure out use of resources.	4	27	10	1	2.8
5. Decide how to find new resources.	1	24	13	4	2.5

Module III - Conflict Resolution

Neah-Kah-Nie - Arthur
N = 12

SSE 2 - Item B
Overall Average = 2.9

Below are seven skills which play an important part in conflict resolution. After each one, circle the phrase that best describes your ability to do that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Knowing the different kinds of conflict and causes of conflict among group members.	4	6	3	0	3.1
2. Knowing how well you can deal with group conflicts.	1	7	5	0	2.7
3. Knowing how well the others can deal with group conflicts.	2	8	2	1	2.8
4. Explaining what you believe or what others believe in order to resolve group conflicts.	0	12	1	0	2.9
5. Expressing yourself honestly and openly while dealing with group conflicts.	2	10	1	0	3.1
6. Figuring out the best way to resolve conflicts among group members.	5	3	5	0	3.0
7. Knowing when ideas or plans will have to be changed in order to resolve group conflicts.	1	8	2	2	2.6

Module III - Conflict Resolution

Neah-Kah-Nie - Arthur
N = 12

SSE 2 - Item C
Overall Average = 2.6

The next chart shows the same seven conflict resolution skills which you used as guidelines to describe yourself. Now use these guidelines to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, describe each member's ability to do each skill. For each member, write very good, good, poor or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Determine types of conflict.	1	24	17	1	2.6
2. Assess own skills.	4	25	13	1	2.7
3. Determine others' skills.	3	25	15	1	2.7
4. Clarify values.	2	29	16	1	2.7
5. Express feelings.	3	23	16	1	2.7
6. Use appropriate strategies.	3	19	17	4	2.5
7. Evaluate and adjust actions.	1	26	13	3	2.6

Module IV - Planning

Neah-Kah-Nie - Arthur
N = 13

SSE 2 - Item A
Overall Average = 2.7

For each of the statements below, circle the phrase which best describes what is your level of understanding or skill.

	Very Good	Good	Poor	Very Poor	Average
1. Understanding the job that has to be done.	3	10	0	0	3.2
2. Knowing what resources you will be able to use.	2	10	1	0	3.1
3. Thinking about the problems that lie ahead.	0	8	5	0	2.6
4. Thinking about different ways to do the job.	0	2	10	1	2.1
5. Studying these different ways.	0	2	10	1	2.2
6. Choosing the best plan of action.	2	5	6	0	2.7
7. Working out the details of your plan.	2	10	1	0	3.1
8. Stopping and thinking about how well you have done the first seven steps.	1	7	4	1	2.6

Module IV - Planning

Neah-Kah-Nie - Arthur
N = 13

SEE 2 - Item B
Overall Average = 2.6

The chart below shows the same eight skills you used as guidelines to describe yourself. Now use these guidelines to describe the others in the group. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Nature of the job.	5	32	10	1	2.9
2. Resources available.	1	28	19	1	2.6
3. Problems.	3	21	22	2	2.5
4. Different ways.	3	17	24	4	2.2
5. Studying plans.	1	26	21	0	2.6
6. Choosing best plan.	5	22	20	1	2.6
7. Details.	5	20	22	1	2.6
8. Evaluating.	3	19	18	1	2.6

Module VIII - Decision Making

Neah-Kah-Nie - Arthur
N = 8

SSE 2 - Item E
Overall Average = 2.7

Below are six skills in helping cooperative effort. For each one, circle the phrase that best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Blending together the work of different parts of the group.	1	7	0	0	3.1
2. Watching how well the group works together.	1	6	1	0	3.0
3. Finding out why problems come up.	1	2	4	1	2.3
4. Talking about group standards and goals.	0	6	2	0	2.8
5. Helping other group members to do better work.	0	6	1	1	2.6
6. Setting a good example by your own work.	1	5	2	0	2.5

Module VIII - Decision Making

Neah-Kah-Nie - Arthur
N = 8

SSE 2 - Item F
Overall Average = 2.6

The chart below shows the same six skills you used as guidelines to describe yourself. Now use these guidelines to describe the other people in your group. For each person, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Blend the parts.	3	12	7	2	2.7
2. Watch how group works.	2	13	7	2	2.6
3. Find reasons for problems.	1	7	9	7	2.1
4. Talk about standards.	1	12	9	2	2.5
5. Help others.	5	7	9	3	2.6
6. Set a good example.	8	9	5	2	3.0

Module I - Communication

Neah-Kah-Nie - Smethurst
N = 19

SSE - Item F
Overall Average = 2.8

How well do you communicate? Below are six communication skills. For each one, circle the phrase that best describes how well you have already learned that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Presenting your ideas so that others will respond to them.	1	8	8	2	2.4
2. Listening carefully and trying to understand the ideas of others.	1	11	7	0	2.7
3. Understanding the feelings of others.	6	9	4	0	3.1
4. Encouraging others by listening to and accepting their ideas.	3	13	3	0	3.0
5. Keeping information in your head or in notes.	4	9	6	0	2.7
6. Knowing that different people have different interests which affect the way they act in a group.	4	11	3	1	3.1

Module I - Communication

Neah-Kah-Nie - Smethurst
N = 19

SSE - Item G
Overall Average = 2.8

In the boxes of the chart, show how well the different members have learned the communication skills. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Present Ideas	8	49	12	4	2.8
2. Listen to Ideas	6	58	13	4	2.8
3. Understand the ideas of others	4	59	3	2	3.0
4. Encourage others	4	53	15	8	2.7
5. Keep Information	8	55	5	4	2.9
6. Understand why people act different ways	3	49	13	1	2.8

Module II - Resources of the Group

Neah-Kah-Nie - Smethurst
N = 20

SSE 2 - Item A
Overall Average = 3.0

Below are five skills that people need to work in groups. After each one, circle the phrase which best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Figuring out the resources that will help the group stay together and do its job well.	2	15	3	0	3.0
2. Recognizing the resources that you have to do a certain job.	4	12	4	0	3.0
3. Recognizing the resources that other group members have to do a certain job.	2	17	1	0	3.0
4. Figuring out the best way to use the resources of the whole group to do a job well.	1	15	3	0	2.8
5. Deciding what to do if the group doesn't have the resources it needs to do its job.	1	17	2	0	3.0

Module II - Resources of the Group

Neah-Kah-Nie - Smethurst
N = 20

SSE 2 - Item B
Overall Average = 2.8

Below are the same five skills which you used as guidelines to describe yourself. Now use them again to describe the other members of your group. On the left side of the chart, write the name of each group member. Then describe each group member's understanding of the skills. Under each skill, write very good, good, poor, or very poor.

	Very Good	Good	Poor	Very Poor	Average
1. Figure out resources needed.	13	58	20	1	2.9
2. Recognize own skills.	14	57	21	0	2.9
3. Recognize others' skills.	6	60	25	1	2.8
4. Figure out use of resources.	13	63	13	3	2.9
5. Decide how to find new resources.	7	58	23	4	2.7

Module III - Conflict Resolution

Neah-Kah-Nie - Smethurst
N = 18

SSE 2 - Item B
Overall Average = 2.9

Below are seven skills which play an important part in conflict resolution. After each one, circle the phrase that best describes your ability to do that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Knowing the different kinds of conflict and causes of conflict among group members.	3	12	3	0	3.0
2. Knowing how well you can deal with group conflicts.	2	12	4	0	2.9
3. Knowing how well the others can deal with group conflicts.	1	10	6	1	2.6
4. Explaining what you believe in order to resolve group conflicts.	2	10	6	0	2.8
5. Expressing yourself honestly and openly while dealing with group conflicts.	2	12	4	0	2.9
6. Figuring out the best way to resolve conflicts among group members.	1	12	5	0	2.8
7. Knowing when ideas or plans have to be changed in order to resolve group conflicts.	2	14	2	0	3.0

Module III - Conflict Resolution

Neah-Kah-Nie - Smethurst
N = 18

SSE 2 - Item C
Overall Average = 3.0

The next chart shows the same seven conflict resolution skills which you used as guidelines to describe yourself. Now use these guidelines to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, describe each member's ability to do each skill. For each member, write very good, good, poor or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Determine types of conflict.	11	58	18	1	2.9
2. Assess own skills.	18	54	15	1	3.0
3. Determine others' skills.	16	51	20	0	3.0
4. Clarify values.	12	55	21	0	2.9
5. Express feelings.	18	55	15	0	3.0
6. Use appropriate strategies.	13	60	15	0	3.0
7. Evaluate and adjust actions.	20	49	19	0	3.0

Module VI - Leadership and Power

Neah-Kah-Nie - Smethurst
N = 8

SSE 2 - Item F
Overall Average = 3.0

Below are five sentences that tell some ways in which a good leader helps a group. After each one, circle the phrase which tells how well you think you do the things described.

	Very Well	Fairly Well	A Little	Not At All	Average
1. Help the group's work by starting, giving direction to, setting standards for, and organizing the group's action.	2	5	1	0	3.1
2. Help group communication by encouraging others to take part in discussion, by listening carefully, by explaining group members' points of view to one another, and by seeking and giving information and opinions.	3	4	1	0	3.3
3. Help to resolve group conflicts by easing tension, building trust, working out disagreements between group members, blending together the work of different members, and finding compromises between opposing points of view.	3	1	4	0	2.9
4. Help to bring together results of the group's work by watching, studying and explaining the actions, ideas, and decisions of the group.	1	3	4	0	2.6
5. Help to evaluate group performance by studying how well the group's ideas work, helping others understand the value of different solutions to problems, and finding better ways for the group to carry out its decisions and reach its goals.	2	4	2	0	3.0

Module VI - Leadership and Power

Neah-Kah-Nie - Smethurst
N = 8

SSE 2 - Item H
Overall Average = 2.7

The chart below shows the same five skills which you used as guidelines to describe yourself. Now use these guidelines to describe the others in your group. For each person, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Help group's work.	2	21	9	0	2.8
2. Help group communication.	4	20	8	0	2.6
3. Resolve group conflicts.	1	21	10	0	2.7
4. Bring together results.	0	23	9	0	2.7
5. Evaluate group performance.	0	21	11	0	2.6

Module VII - Decision Making

Neah-Kah-Nie - Smethurst
N = 15

SSE 2 - Item F
Overall Average = 3.0

Below are five skills that can help you decide who should make group decisions. For each one, circle the phrase that best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Knowing the good and the bad points of each of the seven ways of decision-making.	2	9	3	1	2.8
2. Knowing the kinds of situations in which each way of decision-making will or will not work.	3	8	4	0	2.9
3. Knowing what things in a situation help determine which way of decision-making should be used.	4	8	3	0	3.1
4. Deciding which way of decision-making is best for a particular decision.	4	10	1	0	3.2
5. Evaluating a decision or a way of making a decision to see if it was effective.	2	9	4	0	2.9

Module VII - Decision Making

Neah-Kah-Nie - Smethurst
N = 15

SSE 2 - Item G
Overall Average = 3.1

The chart below shows the same skills you used as guidelines to describe yourself. Now use these guidelines to describe the other people in your group. For each person, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Understand ways.	14	47	6	2	3.1
2. Know good and bad points.	16	43	8	2	3.1
3. Know kinds of situations.	14	50	3	2	3.1
4. Know things in situation.	14	42	11	2	3.0
5. Decide which way is best.	17	42	8	2	3.1
6. Evaluate decision.	16	41	10	2	3.0

Module I - Communication

Prospect - Gerould
N = 14

SSE 2 - Item F
Overall Average = 3.1

How well do you communicate? Below are six communication skills. For each one, circle the phrase that best describes how well you have already learned that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Presenting your ideas so that others will respond to them.	4	7	3	0	3.1
2. Listening carefully and trying to understand the ideas of others.	3	10	1	0	3.1
3. Understanding the feelings of others.	6	7	1	0	3.4
4. Encouraging others by listening to and accepting their ideas.	2	8	3	1	2.8
5. Keeping information in your head or in notes.	4	6	3	1	2.9
6. Knowing that different people have different interests which affect the way they act in a group.	5	8	1	0	3.3

Module I - Communication

Prospect - Gerould
N = 14

SSE 2 - Item G
Overall Average = 2.9

The chart below will show you the same six communication skills which you used as guidelines to describe yourself. Now use these skills to describe the others in your group. On the left side of the chart, write the names of the other group members. In the boxes of the chart, show how well the different members have learned the communication skills. For each member, write very good, good poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Present ideas.	22	20	9	1	3.2
2. Listen to ideas.	15	32	5	0	3.2
3. Understand the ideas of others.	8	33	11	0	2.8
4. Encourage others.	15	20	16	1	2.8
5. Keep information.	13	20	17	2	2.7
6. Understand why people act different ways.	19	22	11	0	3.0

Module II - Resources of the Group

Prospect - Gerould
N = 11

SSE 2 - Item A
Overall Average = 3.1

Below are five skills that people need to work in groups. After each one, circle the phrase which best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Figuring out the resources that will help the group stay together and do its job well.	1	9	1	0	3.0
2. Recognizing the resources that you have to do a certain job.	4	7	0	0	3.4
3. Recognizing the resources that other group members have to do a certain job.	2	9	0	0	3.2
4. Figuring out the best way to use the resources of the whole group to do a job well.	3	7	1	0	3.2
5. Deciding what to do if the group doesn't have the resources it needs to do its job.	0	8	3	0	2.7

Module II - Resources of the Group

Prospect - Gerould
N = 11

SSE 2 - Item B
Overall Average = 3.3

Below are the same five skills which you used as guidelines to describe yourself. Now use them again to describe the other members of your group. On the left side of the chart, write the name of each group member. Then describe each group member's understanding of the skills. Under each skill, write very good, good, poor, or very poor.

	Very Good	Good	Poor	Very Poor	Average
1. Figure out Resources Needed	14	25	3	0	3.3
2. Recognize Own Skills	16	26	0	0	3.4
3. Recognize Others' Skills	14	25	3	0	3.3
4. Figure Out Use Of Resources	13	27	2	0	3.3
5. Decide How To Find New Resources	7	28	7	0	3.0

Module IV - Planning

Prospect - Gerould
N = 9

SSE 2 - Item A
Overall Average = 2.9

For each of the statements below, circle the phrase which best describes what you feel is your level of understanding or skill.

	Very Good	Good	Poor	Very Poor	Average
1. Understanding the job that has to be done.	2	7	0	0	3.2
2. Knowing what resources you will be able to use.	3	5	1	0	3.1
3. Thinking about the problems that lie ahead.	2	6	1	0	3.1
4. Thinking about different ways to do the job.	1	7	1	0	3.0
5. Studying these different ways.	1	5	3	0	2.8
6. Choosing the best plan of action.	0	7	2	0	2.8
7. Working out the details of your plan.	0	7	2	0	2.8
8. Stopping and thinking about how well you have done the first seven steps.	0	5	4	0	2.6

Module IV - Planning

Prospect - Gerould
N = 9

SSE 2 - Item B
Overall Average = 2.9

The chart below shows the same eight skills you used as guidelines to describe yourself. Now use these guidelines to describe the others in the group. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Nature of the job.	1	31	4	0	2.9
2. Resources available.	5	14	17	0	2.7
3. Problems.	7	24	5	0	3.1
4. Different ways.	10	16	10	0	3.0
5. Studying plans.	3	19	14	0	2.7
6. Choosing best plan.	10	23	3	0	3.2
7. Details.	4	19	13	0	2.8
8. Evaluating.	7	26	3	0	3.1

Module VI - Leadership & Power

Prospect - Gerould
N = 3

SSE 2 - Item F
Overall Average = 3.0

Below are five sentences that tell some ways in which a good leader helps a group. After each one, circle the phrase which tells how well you think you do the things described.

	Very Good	Good	Poor	Very Poor	Average
1. Help the group's work by starting, giving direction to, setting standards for, and organizing the group's action.	1	2	0	0	3.3
2. Help group communication by encouraging others to take part in discussion, by listening carefully, by explaining group members' points of view to one another, and by seeking and giving information and opinions.	0	3	0	0	3.0
3. Help to resolve group conflicts by easing tension, building trust, working out disagreements between group members, blending together the work of different members, and finding compromises between opposing points of view.	0	1	1	0	2.5
4. Help to bring together results of the group's work by watching, studying and explaining the actions, ideas; and decisions of the group.	0	2	0	0	3.0
5. Help to evaluate group performance by studying how well the group's ideas work, helping others understand the value of different solutions to problems, and finding better ways for the group to carry out its decisions and reach its goals.	0	2	0	0	3.0

MODULE I - COMMUNICATION

Mt. Diablo - Setencich	SSE - Item F
N = 11	Overall Average = 3.4

How well do you communicate? Below are six communication skills. For each one, circle the phrase that best describes how well you have already learned that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Presenting your ideas so that others will respond to them	3	8	0	0	3.3
2. Listening carefully and trying to understand the ideas of others	6	4	1	0	3.5
3. Understanding the feelings of others	8	3	0	0	3.7
4. Encouraging others by listening to and accepting their ideas	3	8	0	0	3.3
5. Keeping information in your head or in notes	3	8	0	0	3.3
6. Knowing that different people have different interests which affect the way they act in a group	6	5	0	0	3.5

Module I - Communication

Mt. Diablo - Setencich
N = 11

SSE - Item G
Overall Average = 3.0

In the boxes of the chart, show how well the different members have learned the communication skills. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Present Ideas	14	14	3	0	3.3
2. Listen to Ideas	11	16	4	0	3.2
3. Understand the Ideas of Others	5	22	4	0	3.0
4. Encourage Others	5	14	11	1	2.7
5. Keep Information	8	19	4	0	3.1
6. Understand Why People Act Different Ways	1	26	3	0	2.9

Module IV - Planning

Mt. Diablo - Setencich
N = 11

SSE 2 - Item A
Overall Average = 3.4

For each of the statements below, circle the phrase which best describes what you feel is your level of understanding or skill.

	Very Good	Good	Poor	Very Poor	Average
1. Understanding the job that has to be done.	7	4	0	0	3.6
2. Knowing what resources you will be able to use.	5	6	0	0	3.5
3. Thinking about the problems that lie ahead.	4	6	1	0	3.3
4. Thinking about different ways to do the job.	4	7	0	0	3.4
5. Studying these different Ways.	3	8	0	0	3.3
6. Choosing the best plan of action.	5	6	0	0	3.5
7. Working out the details of your plan.	8	3	0	0	3.7
8. Stopping and thinking about how well you have done the first seven steps.	2	7	2	0	3.0

Module IV - Planning

Mt. Diablo - Setencich
N = 11

SSE 2 - Item B
Overall Average = 3.3

The chart below shows the same eight skills you used as guidelines to describe yourself. Now use these guidelines to describe the others in the group. For each member, write very good, good, poor, or very poor under each skill.

	Very Good	Good	Poor	Very Poor	Average
1. Nature of Job	10	23	0	0	3.3
2. Resources Available	10	21	2	0	3.2
3. Problems	10	17	6	0	3.1
4. Different Ways	19	12	2	0	3.5
5. Studying Plans	10	20	3	0	3.2
6. Choosing Best Plan	9	22	2	0	3.2
7. Details	11	21	1	0	3.3
8. Evaluating	12	20	1	0	3.4

Module VIII - Cooperative Effort

Mt. Diablo - Setencich
N = 6

SSE 2 - Item E
Overall Average = 3.0

Below are six skills in helping cooperative effort. For each one, circle the phrase that best describes your understanding of that skill.

	Very Good	Good	Poor	Very Poor	Average
1. Blending together the work of different parts of the group.	0	6	0	0	3.0
2. Watching how well the group works together.	1	5	0	0	3.2
3. Finding out why problems come up.	1	3	2	0	2.8
4. Talking about group standards and goals.	0	5	1	0	2.8
5. Helping other group members to do better work.	1	4	1	0	3.0
6. Setting a good example by your own work.	1	4	1	0	3.0

Module VIII - Cooperative Effort

Mt. Diablo - Setencich
N = 6

SSE 2 - Item F
Overall Average = 3.2

The chart below shows the same six skills you used as guidelines to describe yourself. Now use these guidelines to describe the other people in your group. For each person, write very good, good, poor, or very poor under each skill.
5 = NA (1 = all good; 1 = all very good)

	Very Good	Good	Poor	Very Poor	Average
1. Blend the Parts	9	15	1	0	3.3
2. Watch How Group Works	5	15	5	0	3.0
3. Find Reasons for Problems	8	17	0	0	3.3
4. Talk about Standards	5	19	1	0	3.2
5. Help Others	6	16	3	0	3.1
6. Set a Good Example	10	13	2	0	3.3

Appendix D: Some Reflections on and Implications of the CGIS Curriculum

Appendix D: Some Reflections on and Implications of the CGIS Curriculum, by Dr. Don Langan

The following is a discussion of: 1) some implications of using the current CGIS Curriculum as the basis for generating a teacher/learner paradigm; 2) a probable paradigm design; and 3) some implications such as a paradigm would have for further investigation.

The eight modules currently available through CGIS can be understood to be a curriculum, the models themselves formulating what can be understood to be a course of study. The CGIS modules have been pilot tested in two fashions. In one fashion, the high school students involved experienced CGIS as a course of study, primarily in a vocational/practical education setting or context. The modules ranging from group interaction through cooperative group effort did demonstrate success in the vocational/practical context.

The second test situation that these modules were submitted to was that they were examined as a potential methodology for instruction at Neah-Kah-Nie High School in Oregon. In this case, there was no context implied or prescribed for the CGIS modules. They served as an instructor/learner methodology with context being supplied by the curriculum itself. For example, a ninth grade Health Education class, a ninth grade Geography class, and a ninth grade English class were taught using the cooperative group skills methodology implied in the current CGIS. This was also done with a U.S. History class composed of 17-year old high school juniors. These students also went through a cooperative interacting routine where in the context U.S. History concepts, information and data were processed by groups of students, three to five members, and these groups were evaluated as to how well they learned the history information. Upon analysis of both of these settings or contexts, the U.S.

History class and the Alternative Education class--which included the ninth grade Health, Geography, and English--it was concluded that, as a methodology for instruction and as a methodology for learning, CGIS can help students process more information with greater quantity and greater effect than they can through traditional, uni-directional teacher methodology of the one-too-many interaction.

Based upon the current state of CGIS, it appears at this time that five rather general hypotheses can be offered:

(1) students will process (i.e., receive, analyze, evaluate, and output) greater amounts of context-relevant information through cooperative group interaction methods than they would through uni-directional, one-too-many, information flow characteristic of the lecture/listen method of teaching and learning;

(2) through CGIS methodology, students will process content-relevant information that is more abstract, more sophisticated, and more complex than that processed through the traditional information flow methodology;

(3) through CGIS methodology, students will generate more ancillary and support information related to current information pools than they would through traditional information flow methods;

(4) students will develop evaluative strategies, assessment strategies, and synthesis strategies which will allow them to process post-task information to a greater extent than they would through the traditional learning experience of sitting, listening, storing, and responding;

(5) students will develop individual and group perceptions more congruent with operational task group expectations than they would if their

formal schooling experience emphasized the traditional pattern wherein the teacher and textbook provide the basic information pool and the teacher directs the information to the student.

These five hypotheses, although very ambiguous and vague, imply a number of things. The first implication is that there needs to be generated a model or paradigm--probably a paradigm--that would incorporate the assumptions implicit within CGIS curriculum as either a course of study or as a teacher/learner methodology. The second implication is that, once a model is generated, implications from the model itself can form a learning isomorph wherein the variable processes of learning can be determined and understood, and greater efficacy and efficiency in the teacher/learner interaction can be developed. The third implication is that, once the model has been evolved and once its learning isomorph has been developed, learning can be constructed as a holistic. By understanding learning as a process constant to basically all persons, we can break down socially-imposed, culturally-imposed, and institutionally-imposed boundaries between formal schooling and general education.

The concept of learning as a holistic would allow for the development of a total systems paradigm, wherein the needs of individual persons would be better identified, and agencies to meet those needs would either be developed or directed with much greater efficiency than at present. The ultimate consequence would be, hopefully, a cultural, sociological shift toward learning in general. It would appear that a possible consequence would be something like the following.

An apparent myth in contemporary society is that there is a difference between learning and doing, between learners and doers, that, within a society, only a certain number of learning persons can be accommodated and that generally these are supported by the doing persons. What is proposed here is a dissolution of that learning vs. doing construct into a holistic frame where, in fact, learning _is_ doing and what one does is what one learns. This type of a holistic has the potential of being developed as a formal learning isomorph which could evolve from a generated model based upon the practicality of CGIS as it currently stands.

CGIS is comprised of eight modules which address eight skill areas relevant to group interaction: communicating, using resources, resolving conflict, planning, evaluating group and individual performances, sharing leadership and power within groups, decision-making processes within groups, and cooperative effort of groups toward common group tasks. Those eight constructs of cooperative group interaction are not new. They have been in the social psychological literature for several years. But there is a need at this time to provide a systemic that would take those eight constructs, and perhaps others, and provide a systemic ground wherein they could be, if necessary, inserted and perhaps somewhat redesigned and developed so that all eight or "n" number of cooperative group constructs would form a systemic comprehensive explanatory system of what we mean when we say cooperative group interaction.

It is interesting to propose that the very terminology we use to explain cooperative group interaction is utterly redundant. Cooperation has implications for group, group has implications for interaction, and interaction has implications for cooperation. So the actual terminology itself implies that, in fact, underneath somewhere is a paradigm that could do a number of things. It could: (1) provide an explanatory ground for the presentation of cooperative interaction; (2) provide a definitive ground wherein cooperative group interaction could be operationalized in a specific fashion; and (3) provide for a predictive ground wherein--from the tenets of the model, the assumptions of presumptions, and the concepts and constructs of the model for CGIS--a set of predicted sets and conditions could be developed wherein the destinies of the interactions themselves could be plotted.

At present, one particular school of thought has done a great deal of research and theorizing in modeling. The school of symbolic interaction, beginning with Mead and continuing through Duncan and others, has created a set of propositions that in its own system explains much, if not all, of human behavior. It would seem that particular school of thought, and the work that had been done there, could be readily applied to the problems facing CGIS--what is a model? and what is a systemic model that will explain this construct of cooperative group interaction?

The second school of thought would be the information sciences, or, the cybernetic analog school, with the emphasis on information as a resource in human interaction systems. A working generative model can be developed by using the symbol structure of the symbolic interactionist and the methodology of the cybernetic analog school. If, for example, such a model can evolve--based upon the empiricals we have on hand for CGIS and the theoretics that are available from the interaction and analogical systems schools we would be in a position to extrapolate from that and formulate the much-needed learning isomorph.

In a rudimentary systems sense, we can say that the model, the phenomenon, must be as complex as the phenomenon itself. This implies that if a learning isomorph is to evolve--in other words, an isomorphology of the model itself--that would be a replication or a simulation of what we mean when we say learning. We might then be in a position to provide a learning holistic.

Once we have gone through the process of generation from the model to its isomorph, perhaps we would be in a position to start talking and doing something about this thing called learning.

With a degree of sophistication that would lend itself immediately to environmental testing from the start-up of such an endeavor, two things must be kept in mind. Such testing must apply to the individual and it must apply to groups--two, three, five, or two and a half million. In other words, it must have a general system. It must have mammoth explanatory, descriptive, and predictive power. It must do this because of where it is to be applied and what is to be expected of it. It would appear that to go through the process, the labor, and the resources that would be involved hereof developing models, isomorphs, and generating holistics--without having applicability to three essential subsystem components in the human system--would be a terrific waste of time. The three subsystem components which come to mind, though they tend to overlap, are self, family, and community.

If one can presume at this time that, when we talk about human systems we are using terms that others of like backgrounds can understand, then the concept of self as a subsystem within human systems becomes meaningful. It becomes far more meaningful then if we talk of self in a Freudian, or Jungian, or anthropological view. Self becomes a totality, and at the same time part of something else. It is not an encapsulated, or isolated, phenomenon or by-phenomenon. The learning holistic that we are looking at here would utterly declare self to be a product of learning, and learning is, ultimately, essentially, and initially a product of interaction. Interaction is ultimately, eventually, and initially a product of language; symbolic experiences that provide the interactants with cultural baggage, or social baggage, and produce their self-baggage. So self is a consequence of interaction, and the person who lives with that self functions only as well as he is able to interact with his environment, and that environment is essentially other people.

The second subsystem which would be directly affected by such a learning holistic would be those other people in the sense of family. The traditional concept of family--providing the youngster with identities, perspectives, and philosophies--has perhaps degenerated to the point now, in many situations, where the youngster is actually seeking to interact with his environment (other people) without the benefit of self, in a very real sense. It probably would not be too much of an extension to say many youngsters today are, in point of fact, selfless. The consequence of the learning isomorph and learning holistic would be that family would perhaps be redefined; rather than the biological-social unit, it would probably be that plus something else. The concept of family has changed whether or not change was designed or intended. At yet, there seems to be no undergirding, direction, or prediction as to where this change is ultimately going to end, and what will be the ultimate consequences of this change in family for the people produced by families. When we talk about learners and learning, teachers and teaching, it seems we must also talk about parents and children, children and children, and parents and parents. That interactant cycle is for most intents and purposes the genesis of any given society. This brings us to the third subsystem within the human system holistic, and that is the subsystem of community.

It's not by accident, in fact, that community (communication and communal and communicant) have a semantic relationship that probably goes beyond just a lexicant definition. The current models of learning we now have, and the current understanding we have of education, seems too very little toward elevating, extending, or perhaps improving the subsystems of self, family, and community. When these subsystem categories are left out of the education efforts of a people, then the only consequence one can expect is that the total human system is the loser. This is just probably more metaphysics than science.

The concept of schooling and education or schooling versus education would dissolve. If we understand that schooling is basically prescriptive for learning, and if we understand education to mean learning, then there really isn't too much of a problem. Schooling is what schools do, and to become educated is what youngsters are supposed to do. From this type of development of a learning isomorph and a learning holistic, the need for not revolutionizing education in its general sense, or school systems in the current sense, would arise because it is doubtful that the revolution would ever work. However, one does see an evolution occurring--a gradual breaking down of school boundaries and of territorial domains of professional educators. There exists a greater input from environmental groups, (pressure groups, political groups, interest groups,) than has perhaps been in the past. These are far more legitimate activities today than they were ten years ago, by legislative mandate as well as by public interest. What would occur with the whole schooling-education concept is a recognition that learning is more than the reception and emission of information. The words student and teacher would probably drop out because by definition all people would become students as well as teacher. But we are currently unable to provide students with the adaptation apparatus that a complex society demands.

In order to function in society, in a free choice fashion, it has to be presumed that the individual can establish several interfaces with a variety of subsystems within the environment. This would mean that the individual could cooperatively interact in productive fashion with several types of other people, rather than having plumbers talking to plumbers and not to dressmakers because of the inability to establish an interface. It could be foreseen that, through a learning holistic, people could develop the idea that learning does not stop at age eighteen, that you don't go through the rite of passage at graduation, and are matriculated as a finely honed, finished, learned person. Rather than that, the student would understand that his or her essential task is not to receive and emit the stuff of current education, but to develop a processing apparatus that would allow him or her to handle information from a variety of sources and variety of types to process this information into data, and to feel as though what he or she emits back to the other interactants is valuable and needed. If this were to occur, we would not end up with a homogenized state or condition, as others have said. The homogenization would not occur for this reason: because people can interact with a variety of subsystems, they can, in fact, interface with a variety of other information sources. There would be no stress toward homogenization; there would be no stress toward breaking down impermeable boundaries. There would be the identification of territory based upon what some people know. It becomes a symbolic territory. The individual must constantly learn; the individual must constantly seek to become more proficient, to become more competent in establishing relationships (or interfaces) to exchange across that interface in a productive, worthwhile, satisfying manner. Once this would occur, then the evolution of an education system would be well under way.